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Listing first 45 summaries
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Copyright (c) 1993 - 2003 Compugen Ltd.
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Pred. No. is the number of results predicted by chance to have a

score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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REFERENCE AUTHORS	ORGANISM	SOURCE	VERSION	ACCESSION	LOCUS	RESULT 1 AX304472
1 Das,D., Reddy,R., Yao,M.G., Nguyen,D.B., Lu,Y., Tribouley,C.M., Yue,H., Khan,F.A., Gandhi,A.R., Au-Young,J., Lal,P., Kearney,L., Elliott,V.S., Ding,L. and Thornton,M.	Homo saptens Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.	human.	AX304472.1 GI:17383843	AX304472	AX304472 4237 bp DNA Linear FAT 30-NOV-2001	

ALIGNMENTS

	867	807 A	1067	747 CTGGAGCAAGGG	1	Oy 1026 AACGTGAACCTG	Qy 966 GACAAGAACGGGATGGC	567 CA	Qy 937	937	447 AGCCTGGCTCGC	906 AGCCTGGCTCGC	387 GTGGCGCGCAC	Ov 846 GTGGCGCGCACC	786 TTCAG	Db 267 GGGCGGCAGTCC	CGGCAGT	Qy 666 CCCTCACGCAAC	Db 147 TCCAAGGGCCTGG	CCAAGGG	Db 87 GTGGAGCGGTG	TGGAGC	Query Match Best Local Similario Matches 3926; Conso	BASE COUNT 816 a	source	JOURNAL Patent: WO
	AAGAGTICIGIGCCTTCTACAAGATGATGTCCACCGGCGGACCTCTACCTGCTCATG 1166	CGGACACGGATGACCACCAAGGGACGCTGGGTTTT 866	GGAAGCGGACACGGATGACCACCAAGGGACGCTGGGTTTT 11	AAGCTGGCCTGCT	100	TGAACCTGCCCCGGCAGAGGGTGAAGCAGATGTTCAG	WATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTC 1025		AGTGGCTGAAG	93	zácchácáchcchágáhc	GCCAGCGCACCAGGGA	TOTOGOTCACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGAGGAC 446	CACGGCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAG	GAG 84	32	тссавсестассствасвесавсттевассссавстс	GCAAGAACGAGAAGGCCAAGATCTCCATCGACTCCATCCA	GGTCCGCTTCTACTACCTGGACGAGCACCGCTCCTGCATCCGCTGGAGG 206	TCCGCTTCTACTACCTGGACGACCACCGCTCCTGCATCCGCTGC	14	AAGAGGGGATGCAGATGGTGAAGCTGCGTGGCGGC	79.5%; Score 3684.6; DB 6; Length 4237; ty 94.6%; Pred. No. 0; ervative 0; Mismatches 4; Indels 219; Gaps	o.	apiens"	O 0189956-A 10 15-NOV-2001; nomics, Inc. (US) TOPATION (NO. 11618)
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8 4	AAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAGGAAGGCGAGGTGTC	18	Db Qy
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Lipid metabolism enzymes
Patent: WO 0216597-A 12 28-FEB-2002;
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Location/Qualifiers
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2727	2668 TGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGCTAC	Db
1586	27 TGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGGAGCCCATTGTGCACCATGGCTA	·
õ	2608 CAGCTCATGTCCCAGTCACGGGTGGACATGTATGCTTGGGTCCTGCAGGCTGGCT	_
1526	67 CAGCTCATGTCCCAGTCACGGGTGGACATGTATGCTTGGGTCCTGCAGGCTGGCT	,
2607	2548 ACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACAACACCCTACCTCGTGGGTGAC	•
1466	07 ACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACAACACCTACCT	·
4	488 ACCA	
4.	CAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGACAT	
8	42	
1346	3CCATGCCCAGAAAACAAGAGTAAGGGGCCTGCTGGGCATTGATGGCTTCACCAAC	
242	3	
12	227 GTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAG	
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23	248 GAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCTGCTT	
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N)	CCAAGGCCTTGCATTGCAGGAAGCGGACACGGATGACCACCAAGGGACGCTGGG	
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2187	GCAAGGGAAGCTGGCCTGCTCACAGGACAGGGCCCTGGTCGAGGTGCCAAT	DЪ
1066		γQ
2127	(·)—	DЬ
1066	acgigaaccigccccggcagagggigaagcagaigiica	8

168 GAGGTGGAGATCATTGGGCTCCCTGTGGACTGCAGCAGGGAGCAGAC 850 GACAACGGGTTCAACCCCACCTGGGAGGAGACCCCTGGTTTTCATGGT	중 유
	\$ 5
2730 CTTCCCAAGCCGCGCGACTCCATGCTGGGGGACCCCTTGTGGGGAGATCATCGACCCCTTTGTG	유성
670 GACCCCCTGCCCGGGCAGCTCAAGAAGCAGCTGGTGCTCCGGATG	음 성
10 TGCGGCTACGTACTCAAGCCTGCGTGCATGTGCCAGGGCGTGTT	용 성
550 TACCAGTCAGAGGGGCGATGCTGCAGCTGAACCGAGCCAAG	유 성
490 TCCAGCAACTACAACCCGCAGCCCTTCTGGAACGCCGGCT	8 8
430 TACCTACGCTTCAACCAGCAGCAGCTCTCCCGCATCTACCCC	유 성
370 CAGGTGTCGTCCTTCAGCGAGACCAAGGCCCACCAGATTC	B 성
	유 성
2250 AGCCGAGGGGGACCCGGCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCTCTGACCTG	유
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O AGACGCAATGGCCGCCTCGTCGTG	음 성
2081GAGCAAGGCTGAAGAGGACGTGGAGTCTGGGGAGATGCCGGGGCCAGC 2	유 성
3388 CGAGTGTCTGTGGTCATGAGAGCTACAGTGGCCTCTTTGCAGCAGTGTGGGAGCATCCAG 3	ğ
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3328 GGTCCAGGCTGGGGAGAGCGGGCAGCAGTCGGAGCTGTTTGCTGTGGCGTGGCTGAGCGC 3	₽
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2067 AAGCTCGGACGCAA	용 성
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3870 ATGTTCTCCGCCGGTAAGCCCCCTCTGCCC 3899	Qy Db
3810 CAGGGAGAGATGAGTGCCTTGTTTGCTCAAAAGCTGGAGGAGAATCAGGAGTAAATCCCCC 3869 	•
3750 GGCATCCCCGAAAGGTCCCCCCGCTGGCCTGAGGGTGCCCTGCAGGCAACCGGGGGGCCCTG 3809	B &
	Db Qy
630 CTGGACCCTCACGCTATCCCGGGGAGAAGCAGAGAGAGGCCCCCAAGGGTCCTGGGGCC	
3570 GCAGCCATTCGCCAGCAGCCCCGGGCCCGGGCTGACTCACTGGGGGCCCCCTGCTGTGGC 3629	ρ <b>Q</b> γ
3510 GTGAACACCGGGGGCCTGCAGAGGGAGCGGCCACCCAGCCCGGGGCCTGCAAGCAGGCAG	
3450 CCCGGGCCTGCTGGGATGGCCGCCACATGCATGAAGTGTGTGGGAGTCCTGCGCCGGC 3509	
3390 CCAGCTGCGGTGGCAGAAAAGAGCCCTGTGCGAGTGCGGCCCCCGCGTGTCCTGGACGGC 3449	Db 4
3330 CCTGCTCCGGAAGCCCCAGCCCAGGAGGGGCCCCGGCAGCCAGC	
3270 GGTACACGGGACACAGGCTCCAAGGGGGTTGGCAGACGATGTGGTGCCCCCCGGGCCCGGA 3329	Db 2
σ μ	Db 92
0 4	
3030 ATGGAAGAGGCCTCCATCTTCGTGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAG 3089	р <sub>р</sub> 3
970 CAGAGGACGCTGGCCTTCAGCAGCATGATGCCAGGCTACAGACACGTGTACCTAG 	Db 4
2910 ATCGCGCTGGTCCGCTTCCTCGTCTGGGACCACGATCCCATCGGGCGTGACTTCATTGGC 2969	
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                          2147 CGTCGTGGGAAGCTTCTCCAGGCGCAAGAAGAAGGCGAGCCAAGCTGAAGAAGGCGGCCAG 2206
                                                                                                                               2087 GGCTGAAGAGGACGTGGAGTCTGGGGAGAGGATGCCGGGGGCCAGCAGCGCAATGGCCGCT 2146
                                                                                                  1 GGCTGAAGAGGAAATGGAGTCTGGGGAGGATGCCGGGGCCAGCAGACGCAATGGCCGCCT 60
NEDO human cDNA sequencing project supported by Ministry of Economy, Trade and Industry of Japan; cDNA full insert and 5'- & 3'-end one pass sequencing: Research Association for Biotechnology; cDNA library construction and clone selection: Kazusa DNA Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Institute, Department of Human Gene Research; 1532-3, Yana, Kisarazu, Chiba 292-0812, Japan (E-mail:cdnainfo@kazusa.or.jp, WRL:http://www.kazusa.or.jp/NEDO, Tel:81-438-52-3913,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The
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fis (full insert sequence).
Homo sapiens adult spleen cDNA to mRNA, clone:FLJ00222.
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2 (bases 1 to 4411)
Jikuya,H., Takano,J., Nomura,N., Kikuno,R., Nagase,T. and Ohara,O.
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4411 bp mRNA
Homo sapiens mRNA for FLJ00222 protein.
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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nucleotide sequence of a long cDNA clone isolated from human
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VLGTRDTGSKGVADDVVPPGPGPAPEAPAQEGPGSGSPRGKAPAAVAEKSPVRVRPLR
VLDGPGPAGMAATCMKCVVGSCAGVNTGGLQRERPPSPGPASRQAAIRQQPRARADSL
                                                                                                                                                                                                                                                                                                                                                    AWTVSPRVLVLVALYPWHCLRGTLLPWLACGP"
                                                                                                                                                                                                                                                                                                                                                                         GAPCCGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSPDSPGIPERSPRWPEG
ACRQPGALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAGPGSPAAAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KAHQILQQKBAQYLRENQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGR
MLQLWRKFSANGGCGYVLKPGCMCQCVFNPNSEDPLFGQLKKQLVLRIISGQQLPKP
RDSMLGDRGEIIDFYFWEBIIGLFUDCSREGTREVVDLNGFNPTWEETILVFMVLNPEIL
LVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEGMEEASIFVHVAVSDISGKVK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /evidence=not_experimental
/product="FuJ00222 protein"
/protein_id="BABB4975.1"
/db_xref="GI:18676646"
/translation="AEEEMESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEG
DEGQDSPGGOSRGATRQKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="FLJ00222"
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3346	CTCCAAGGGGGTGGCAGACGATGTGGTGCCCCCCGGGCCCGGACCTGCTCCGGAAGCCCC	λy 3287	Ø
1200	GAGCCAGAAGCCGGGCCGCAGGGGCTTCCCGGAGCTGGTTCCTGGGTACACGGGACACAGG	Db 1141	U
3286	GAGCCAGAAGCCGGGCCGCAGGGGCTTCCCCGGAGCTGGTCCTGGGTACACGGGACACAGG	λy 3227	0
1140	CCGGCCCGGCCCTCCGTTAGCCAGCGGATCCTGCGGCGCACCAGCCAACCGACCAA	10	U
3226	ACCCGCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	Qy 3167	Ю
3166 1080	AGGCCTCTTCCTCCGAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGCTGCTGGACGGCC	Qy 3107 Db 1021	U KO
3106 1020	CTTCGTGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTGGGCCTAAA	Qy 3047 Db 961	U D
3046 960	CAGCAGCATGATGCCAGGCTACAGACACGTGTACCTAGAAGGGATGGAAGAGGCCTCCAT		U 0
900	CTCGTCTGGGACCACGATCCCATCGGGGTGACTTCATTGGCCAGAGGACGCTGGCCTTCTCGTCTGGGACCACGATCGCCATTGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTTCTCATTGGCCAGAGGACGACGACGACGACGACGACGACGACGACGA		
	CACCIGGGAGGACCCIGGITITCAIGGIGCACAIGCCGGAGATCGCGTGGTCCGCTT	7 7	
	GTTCCTTGTGGACTGCAGCAGGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCC.	7 8	0. 11
2806 720	CTCCATGCTGGGGACCCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGG	27	п о
2746 660	GCTCAAGAAGCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCCAAGCCGCGGA	N	по
2686 600	GCCTGGGTGCATGTGCCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCA	N	п о
2626 540	GATGCTGCAGCTGAACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGTACTCAA	N	пΩ
2566 480	GAGCCCTTCTGGAACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGCG	25 4	н о
2506 420	GAGCAGCTCTCCCGCATCTACCCCTCCTACCGTGTGGACTCCAGCAACTACAACCC	Qy 244° Db 36°	
2446 360	GAGACCAAGGCCACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTACGCTTCAACCA	Qy 238° Db 30°	н о
2386 300	CGTGGCCACCCACGACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGTCCTTCAG	Qy 232 Db 24:	
2326 240	GCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCTCTGACCTGGTGAAGTACACCAAGTC	Qy 226 Db 18:	н ^
2266 180	CGTGGAGGAGGAGATGAGGGTCAGGACTCCCCCGGGAGGCCAGAGCCGAGGGGGACCCG 226	Qy 220 Db 12:	п о

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} &	حيد دير	GAAGAGCCCTGTGCGAGTGCGGCCCCCGGGTGTCCTGGACGGCCCCGGGCCTGCTGGGAT 3466
8	3467	GCCGCCACATGAAGTGTGTGTGGGGATCCTGCGCCGGCGTGAACACCGGGGGGCCT 352
당	w	ccgccacatgcatgaagtetgtgtggatcctgcgccggcgtgaacaccggggg
ρ δ	3527 1441	CCAGCCCGGGGCCTGCAAGCAGGCAGCCAT
Ş	3587	TGACTCACTGGGGGCCCCCTGCTGTGGCCTGGACCCT
В	1501	cccaaaccaaacraacraacraaaaaacccccracraaaacccracacac
용 성	3647 1561	CCCCAAGGGTC
Q		CAGCAGCCCAGACAGCCCGGGCATCCCCGAAAGGTC 37
문	1 9	AGCGGCTCCATGTCCTCGGACTCCAGCAGCCCAGACAGCCCGGGCATCCCCGAAAAGGTC 1
B 5	1681	GGCAACCGGGGGCCCTGCAGGGAGAGATGAGTGC 17
유 성	3827	8=8
Ş		CCCCTCTTGCCCTGCGTGGTCCTCCCGCACGCCCCTGGCATGGCTGGGCCTGGGTCACC 39
ф	1801	CCTCTTGCCTGCGTGGTCCTCCCGCACC
Ş	3947	8
밁	œ	IGCTGCTTCTGCGTGGACGGTGTCGCCTCGTGTGCTCGTGCTCGTGGCTCTGTATCC 192
. 8	4007	GRIGGACTGTCCGGGGCACTCGCTCCCTTGGCTTGTCTGTGGCCCATAGCCCCAGACCCCAGACCCCAGACCCCAGACCCCAGACCCCAGACCCCAGACCCAGACCCAGACCCAGACCCAGACCCAGACCCAGACCCAGACCCAGACCAGACCAGACACAGACCAGACAACA
5 5	1921	IGGCACIGICICCGIGGCACTCIGCICACCTICGCIACCTIGGCIIGCAGACCTGIGGTTTGACCCCAIAGCCCCAGACACT TOTOTICTTCATACACTCTTGACACTCTTTGACACTACTTGACACTTGATTTGACACTCTATAGCCCCAACACTTTACACTTAGCCTTAGACTTAGACTTAGACTTAGACT
당 5	1981	0.4
8	4127	GGAAGAACCAGCTGCTCTTGCTGAGGGTCTGGGGCCCGGGACTGTGGCCTGACATGCTGG 418
₽	2041	CTGAGGGTCTGGGGCCGGGACTGTGGCCTGACATGCT
\$	4187	GCCCTCCGGCTGGGCGCTTCCCCAAACTCACCTCCTGGGCGGCTGGCGACCTGCATGGC 42
ğ	2101	GCCCTCCGGCTGGGCGCTTCCCCAAACTCACCTCCTGJJCCGGCTGJCCGACCTGCATGGC Z1
\$ 8	4247	TGTA
Ş	ω	CAGGCTCCAGGGGTCCCTACTGGGAAGTCTGATGTGGGCAGGTAGTGCAGCTGCTGGGC 43
В	2221	22
δĀ	4367	TCTCCTGCGCCCCTGGGACGCCTGGAGCCTGCTGAGTGCTGCGTGGAGTAGATTCCCTG 4

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301
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                                                                                                                                                             292 AAGGGACACCGGGGGCCCTGGGAGCAGAGAGACCTCAGAGCAGCCTCCTCCTGCCTCCTG
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                                                                                                                                                                                                                                                         GACCCCATGCCTGGGGGTGAGCCTGGAGCCAGGGCAGTGCGGTGAGAGGCTCCGGAGAGA
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                       CGACAGTCCTCAGTCCCTCCATGATGGCTCCCCCGACAGCCGGCCCCCTTCCTGGCCCAG
                                                                                    TGGACGGCCGCCCAGCTGGTGATCCCAGCCAGCCAGCTTTCAGTTGCTGCCCCCAC
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CGACAGTCCTCAGTCCCTCCATGATGGCTCCCCCGACAGCCGGCCCCCTTCCTGGCCCAG
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Tribouley,C.M., Yue,H., Gandhi,A.R., Walia,N.K., Khan,F.A., Lu,Y.,
Yao,M.G., Hafalia,A.J., Elliott, V.S., Patterson,C., Lal,P.,
Ramkumar,J., Nguyen,D.B. and Baugn,M.R.
Lipid metabolism molecules
Patent: WO 0204490-A 10 17-JAN-2002;
Incyte Genomics, Inc. (US)
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
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G 1491     1380	acctegteceacaacacetacetegtgggtgaceageteatgteceagteaegggtg 
'A 1431    A 1320	372 TCAACCCTGAGCACCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTC
T 1371	312 AGGGCTGCTGGGCATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACATC
A 13	252 CCCTCGAGAGCTGCCAGGACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGT
A 12	192 ACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCAGGTGGAGGTGGAGGAGATGGCGGGTGT
C 1191	132 TGATGTCCACCCGCCGGGACCTCTACCTGCTCATGCTGACCTACAGC
A 113   A 102	072 CGGACACGGATGACCACCAAGGGACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACA
G 10	TGCTGCACAAGCTCAACGTGAACCTGCCCCGGCAGAGGGTGAAGCAGATGTTCAGGGA 
C 10	CGTTTGACGAGGCCGACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCA
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CA 891	CCACCAGCAGCGAGGTGGCGCGCACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGG
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C 711 C 600	GCATCCGCTGGAGGCCCTCACGCAAGA
OT 651	AGCTGCGTGGCGGCTCCAAGGGCCTGGTCCGCTTCTAC
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                                                                                                                                         ON Homo sapiens mRNA for KIAA0450 provided by AB007919 GI:3413861 KIAA0450 protein. Homo sapiens male brain cDNA to mRI plus clone:HG0217.
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Nakajima,D., Nomura,N. and Ohara,O.
Characterization of cDNA clones in size-fractionated cDNA libraries from human brain
DNA Res. 4 (5), 345-349 (1997)
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                                                                                        Seki,N.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGACAGTCATGCTGGGCGGCCCCCGGCCCCGGCCCTTAGCCAGCGGATCCTGC
                                                    GCGCCGGCGTGAACACCCGGGGGCCTGCAGAGGGAGCCGCCCACCCCAGCCCGGGGCCTGCAA
                                                                           GCGCCGGCGTGAACACACCGGGGGGCCTGCAGAGGGAGCGGCCACCCAGCCCGGGGCCTGCAA
                                                                                                                                                   GTAAGGCGCCAGCTGCGGTGGCAGAGAAGAGCCCCTGTGCGAGTGCGGCCCCCGCGTGTCC
                                                                                                                                                                                                                                                                                                                                                       TGGTCCTGGGTACACGGGACACAGGCTCCAAGGGGGTGGCAGACGATGTGGTGCCCCCCG
                                                                                                                              Ohara, O.
Direct Submission
Submitted (08-OCT-1997) Osamu Ohara, Kazusa DNA Research Institute,
Laboratory of DNA Technology; Yana 1532-3, Kisarazu, Chiba
292-0812, Japan (E-mail:cdnainfo@kazusa.or.jp, Tel:+81-438-52-3913,
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/LKALVCPHTPSLRWESPSDROTHGTSVARSGELALGGDQDGWDPWQQLHGLLLLQV
KQALGLKGLHLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPE
LVLGTRDTGSKCVADDVVPDGPGPAPBAPADEGGGSGSGRGKAPAAVAEKSPVRVPP
RVLDGPGPAGMAATCMKCVVGSCAGVNTGGLQRERPPSPGPASRQAAIRQOPRARADS
LGAPCCGLDPHAIPGRSEAPKGPGAWTGGLQRERPPSPGPASRQAAIRQOPRARADS
GARCGGLDPHAIPGRSEAPKGPGAWTGGLQRERPSDSSCDSGCIPERSPRWPE
GACRQPGALQGEMSALFAQKLEBIRSKSPMFSAGKPLLPCVVLPHAPGMAGPGSPAAA
SAWTVSPRVLVLVALYPWHCLRGTLLPWLACGP"
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3227. .4504
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/product="KIAA0450 protein"
/protein_id="BAA32295.1"
/db_xref="GI:3413862"
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/chromosome="1"
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clone_lib="pBluescriptII SK plus"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  clone="HG0217"
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4008

GCAGGCAGGCATTCGCCAGCAGCCCCGGGCCCGGGCTGACTCACTGGGGGCCCCCT

RESULT 6 AL139246 LOCUS

AL139246

154736 bp

DNA

linear

PRI 16-NOV-2001

16.22   CCTTOTROCCTTORACCCTTANCCCCOAGGARAGAGCACAAGGACCCCCCAAAGGGTCCTC   3681   3682
GCTGTGGACCCTCACGCTATCCCGGGGAGAAGACGAAGAGGCCCCCAAAGGGTCCTTC  GGGCCTGGACCCTCACGCTATCCCGGGGAGAAAGCAGAAGAGGCCCCCAAAGGGTCCTTC  GGGCCTGGAAGCCAGAGGTCCAGGCGGTAAGCGGTCCATGTCCTCGGAACTCCACAGGGTCCAAGGGTCCAAAGGTCCAGAGGTCCAGAGGTCCAGAGGTCCAGAGGTCCAGAGGTCCAGGGTCCAAAGGTCCAGAGGTCCAGAGGTCCAGAGGTCCAGAGGTCCAGAGGTCCAGAGGTCCAGAGGTCCAGAGGTCCAGAGGTCCAGAGGTCCAGAGGTCCAGAGGTCCAGAGGTCCAGGGTCCAGGGTCCAGGGTCCAGGGTCCAGGGTCCAGGGTCCAGGGTCCAGGGTCCAGGGTCCAGGGTCCAGGGTCCAGGAAAGGTCCAGGAAAAGTCCCAGAAAGGTCCCCGCAGGGTCCAGGGTCCAGGAAAAGTCCCAGAAAGTTCCAGAAAAGTCCCAGAAAGTTCAGAAATCCCAGAAAAGTCCCAGAAAAGTCCCCAAAAGTTCAGAAAACTCAGAAATAAAGTCCCCCAAAGGTTAAGCCCCCCAAAAGTTCCCCCAAAAGTTCCCCCAAAAGCTCAGAAATAAAGTCCCCCAAAAGTTCAGAAATAAAGTCCCCCAAAGTTAAGCCCCCCAAAAGTTAAAGTCCCCCAAAAGTTCCCCCAAAAGTTCCCCCAAAAGTTCCCCCAAAAGTTAAGAAATAAAAGTTCAAGAAATAAAAGTTCAAGAAATAAAAGTCCCCCAAAAGTTAAAGTCCCCAAACTTCAGGAATAAAGTTCAAGAAATAAAAGTCCCCCAAAAGTTAAAGTCCCCCAAAAGTTAAAGTCCCCCAAAAGTTCAGAAATAAAAGTTCAAGAAATAAAAGTCCCCAAAAGTTAAAAGTCCCAAAAGTTAAAAAGTTCAAAAGTTAAAAAGTCCCAAAAGTTAAAAAGTTCAAAAGTTAAAAAGTTCAAAAGTTAAAAAGTTCAAAAAAAA

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TITLE
                                                                                                                                                                                  Matches 1552;
                                                                                                                                                                                                               Query Match
Best Local &
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                                                         55300 AGGTCAAGCAGGCTCTGGGCCTAAAAGGCCTCTTCCTCCGAGGCCCAAAGCCCCGGCTCGC 55359
3142 TGGACAGTCATGCTGCGGCGGCCCCCGGCCCTCCGTTAGCCAGCGGATCCTGC 3201
                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
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                                                                                                                     3082 AGGTCAAGCAGGCTCTGGGCCTAAAAGGCCTCTTCCTCCGAGGCCCAAAGCCCGGCTCGC 3141
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This sequence is the entire insert of clone RP3-395M20 The true left end of clone RP4-755G5 is at 90075 in this sequence. The true right end of clone RP4-755G5 is at 90078 in this sequence. The true right end of clone RP4-755G5 is at 135438 in this sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         http://www.sanger.ac.uk/Projects/C_elegans/wormpep This sequence was generated from part of bacterial clone contigs of human chromosome 1, constructed by the Sanger Centre Chromosome 1 Mapping Group. Further information can be found at http://www.sanger.ac.uk/HGP/Chr1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     regions were either double-stranded or sequenced with an alternate chemistry or covered by high quality data (i.e., phred quality >= 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by at least one plasmid subclone or more than one M13 subclone; and the assembly was confirmed by restriction of M25 subclone; and the assembly was confirmed by restriction digest. The following abbreviations are used to associate primary accession numbers given in the feature table with their source databases: Em., EMELT, Sw.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk On Nov 17, 2001 this sequence version replaced gi:15912352. During sequence assembly data is compared from overlapping clones. Where differences are found these are annotated as variations together with a note of the overlapping clone name. Note that the variation annotation may not be found in the sequence submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SWISSPROT; Tr:, TREMBL; Wp:, WORMPEP; Information on the WORMPEP database can be found at http://www.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 corresponding to the overlapping clone, as we submit sequences with only a small overlap as described above.

This sequence was finished as follows unless otherwise noted: all
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RP3-395M20 is from the library RPCI-3 constructed by the group of Pieter de Jong. For further details see
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human DNA sequence from clone RP3-395M20 on chromosome 1p36.11-36.33, complete sequence.
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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AL139246.20 GI:16973797
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                                                                                                                                                                                     Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="Tandem repeat. Forced join. Gap size estimated to be approximately 800bps by restriction digest data." 125344 .125387
                                                                                                                                                                                                                                                                                                                                                                 digest.
                                                                                                                                                                                                                                                                                                                                                                                 /note="Sequence from overlapping clone
RP4-755G5 (AL589746). Assembly confirmed by restriction
digast."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /clone_lib="RPCI-3"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /map="p36.11-36.33"
/clone="RP3-395M20"
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db_xref="taxon:9606"
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                                                                                                                                                                               Score 1540.4; DB 9
Pred. No. 3.2e-236;
0; Mismatches 1;
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                                                                                                                                                                                                                                           DB 9;
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4281	CTGGGCGGCTGGCGACCTGCATGGCCCCTGATGCCTTTCCTGGGACTGGGGGCCATGTAC	4222	Q
4221 56439	CCGGGACTGTGGCCTGACATGCTGGGCCCCTCCGGCTGGGCGCTTCCCCAAACTCACCTC	4162 56380	Qy db
4161 56379	GAGCTGGTTTGAGGCCCGACAGGCTGGGAAGAACCAGCTGCTCTTGCTGAGGGTCTGGGGG	4102 56320	04 V2
4101 56319	TIGCCIGIGGCCCATAGCCCCAGCCCTCCTGTCTGAGGCTTGAGGCCCTGGGACTTGGGTG	4042 56260	Db dd
4041 56259	TGCTCGTGCTCGTGGCTCTGTATCCGTGGCACTGTCTCCGTGGCACTCTGCTCCCTTGGC	3982 56200	DF 29
3981 56199	CTGGCATGGCTGGGCCTGGGTCACCTGCTGCTGCTTCTGCGTGGACGGTGTCGCCTCGTG	3922 56140	B 8
3921 56139	AATCCCCCATGTTCTCCGCCGGTAAGCCCCTCTTGCCCTGCGTGGTCCTCCCGCACGCCC	3862 56080	DD 09
3861 56079	GGGCCCTGCAGGGAGAGATGAGTGCCTTGTTTGCTCAAAAGCTGGAGAGAGA	3802	p 99
3801	: ACAGCCCGGGCATCCCCGAAAGGTCCCCCCGCTGGCCTGAGGGTGCCTGCAGGCAACCGG	3742 55960	B 8
3741 55959	GGGCCTGGAGGCAGGGTCCAGGCGGTAGCCGCTCCATGTCCTCGGACTCCAGCAGCCCAG	3682 55900	DB QQ
3681 55899	GCTGTGGCCTGACCCTCACGCTATCCCGGGGAGAAGAGAGAG	3622 55840	Qy Db
3621 55839	CAGGCAGGCAGCCATTCGCCAGCAGCCCCGGGCCCGGGCTGACTCACTGGGGGCCCCCT	3562 55780	Db Qy
3561 55779	: GCGCCGGCGTGAACACCGGGGGCCTGCAGAGGGAGCGGCCACCCAGCCCGGGGCCTGCAA	3502 55720	Db Qy
3501 55719	: TGGACGGCCCCGGGCCTGCTGGGATGGCCGCCACATGCATG	3442 55660	Db
3441 55659	GTAAGGCGCCAGCTGCGGTGGCAGAGAAGAGCCCCTGTGCGAGTGCGGCCCCCGCGTGTCC	3382 55600	Db Q7
3381 55599	GGCCCGGACCTGCTCCGGAAGCCCCAGCCCAGGAGGGGGCCCGGCAGCGGCAGCCCCCGAG	3322 55540	Db Qy
3321 55539	PIGGTCCTGGGTACACGGGACACAGGCTCCAAGGGGGTGGCAGACGATGTGGTGCCCCCCG	3262 55480	Db Qy
3261 55479	GGCGCACGGCCAGCGCCCGACCAAGAGCCAGAAGCCGGGCCGCAGGGGCTTCCCGGAGC	3202 55420	Qy db
55419		55360	Db

665

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                                                                                                                                                                                                    Submitted (04-JUL-2002) Takao Isogai, FLJ Project(HRI Team); 2-6-7 Kazusa-Kamatari, Kisarazu, Chiba 292-0812, Japan (E-mail:genomics@hri.co.jp, Tel:81-38-52-3975, Fax:81-438-52-3986) NEDO human cDNA sequencing project supported by Ministry of Economy, Trade and Industry of Japan; cDNA full insert sequencing: Research Association for Biotechnology (RAB); cDNA library construction: Helix Research Institute (HRI) (supported by Japan Key Technology Center etc.); 5'- & 3'-end one pass sequencing: RAB, HRI, and Biotechnology Center, National Institute of Technology and Evaluation; clone selection for full insert sequencing: HRI and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nishi,T., Ota,T., Nakagawa,S., Senoh,A., Mizuguchi,H., Inagaki,H. Sugiyama,T., Irie,R., Otsuki,T., Sato,H., Wakamatsu,A., Ishii,S., Yamamoto,J., Isono,Y., Kawai-Hio,Y., Saito,K., Nishikawa,T., Yamashita,H., Matsuo,K., Nakamura,Y., Sekine,M., Kimura,K., Yamashita,H., Matsuo,K., Nakamura,Y., Sekine,M., Kikuchi,H., Kanda,K., Wagatsuma,M., Murakawa,K., Kanehori,K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AK096620.1 GI:21756155 oligo capping; fis (full insert sequence). Homo sapiens fetal brain cDNA to mENA, clone_lib:OCBBF2 clone.OCBBF2012936.
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Isogai,T. and Yamamoto,J.
Direct Submission
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Homo sapiens cDNA FLJ39301 fis, clone OCBBF2012936, weakly similar
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Homo sapiens, clone IMAGE:4932488,
EC019679
                cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Baylor College of Medicine Human Genom
                                                                                                                                                                                            Submitted (19-DEC-2001) National Institutes of Health, Mammalian Gene Collection (MGC), Cancer Genomics Office, National Cancer Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
                                                                                  Email: cgapbs-r@mail.nih.gov
Tissue Procurement: David N. Louis,
                                                                                                                                NIH-MGC Project URL: http://mgc.nci.nih.gov
Contact: MGC help desk
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Sequencing Center
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This clone was selected for full length sequencing because it passed the following selection criteria: matched mRNA gi: 7662133.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Contact: amg@bcm.tmc.edu
Gunaratne, P.H., Garcia, A.M., Lu,
Yoon, V.S., Kowis, C.R., Lawrence,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Center code: BCM-HGSC
Web site: http://www.hgsc.bcm.tmc.edu/cdna/
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SSDTVIDLSLPSLGLGRSRENLAGAHMGRLPPRPHSASAARPDLPPVTKSKSNPNLRA
TGQRPPIPDELQPRSLAPRMAGLPFRPPWGCLSLVGVQDCPVAAKSKSLGDLTADDFA
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/protein_id="AAH19679.1"
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/tamslation="AGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVF
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NPNSEDPLPGQLKKQLYLRIISGQQLEKERDSMLGDRGEIIDEFVEVEIIGLEFVDCSR
EQTRVVDDNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMP
GYRHYYLEGMEEASIFYHVANSDISGKVKQALGLKGLFLRGPKPGSLDSHAAGRPPAR
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QEGPGSGSPRDTRPLSTQRPLPPLCSLETIAEEPAPGPGPPPPAAVPTSSSQGRPPYP
TGPGANVASPLEDTEEPRDSRPRPCNGEGAGGAYERAPGSQTDGRSQPRTLGHLPVIR
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CSVGHEGSVDAPAPSKGALGPASAAAENLVLLRL"
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/clone_lib="NCI_CGAP_Brn67"
/lab_host="DH10B"
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/translation="DLYLLLEYSDKKDHLTVBELAQFLKVEQKMNNVTTDYCLDIIK
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INKHAFVKNEFPVIL63IENGGSIQQDKIAQYLKGIFGDKLDLSSYDTGECKQLESFQ
SLKGKILVKGKKLPYHLGDDAEEGEVSDEDSADEIBDCKFKLHYSNGTTEHQVESFI
RKKLESLLKESQIRDKEDDDGSTVRALKATHEGLNAHLKQSPDVKESGKKSHGRSLM
TNGYGHKKTTKGRSKSYSTDDBEDTQGSTGKEGGQLYKHLGRRKKTMLCRELSDLVVY
TNSVAAQDIVDDGTTGNVLSFSETRAHQVVQQKSEQFMIYNQKQLTRIYPSAYRIDSS
NFNPLLYWNAGCQLVALNYQSBGRMMQLNRAKFYANGNGCYVLKPQQMCKGTFNPFSG
DPLPANPKKQLILKVISGQQLFKPPDSMFGDRGEIIDPFVBVEIIGLPVDCKXQQTRV
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                                                                                                                                                                                                                GGACCACGATCCCATCGGGCGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGCAT
CATAACCATCAATGAAATCTATGGAAAG
                                                                                       AGTGCCTGGCTACCGGCATGTCTATTTGGAAGGACTGACAGAAGCATCCATATTTGTACA
                                                                                                                                GATGCCAGGCTACAGACACGTGTACCTAGAAGGGATGGAAGAGGCCTCCATCTTCGTGCA 3055
                                                                                                                                                                                   GGATCACGATCCCATTGGACGAGACTTTGTTGGACAAAGAACTGTGACCTTCAGCAGCTT
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                                                                                                                                                                                                     CTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAG 1268
                                                    GACATCATAAAGAAGTTTTGAAGTTTTCAGAAGAAAATAAAGGTGAAAAATGTTCTTTGGCATA 180
                                                                                                     GACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGGCTGCTGGGCATT 1328
                                                                                                                                                      CTGGCTCAGTTTTTGAAGGTGGAGCAAAAGATGAATAATGTGACAACGGACTATTGTCTT 120
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Laboratory of DNA Technology; Yana 1532-3, Kisarazu, Chiba
292-0812, Japan (E-mail:cdnainfo@kazusa.or.jp, Tel:+81-438-52-3913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (17-JUN-1999) Osamu Ohara, Kazusa DNA Research Institute, Laboratory of DNA Technology; Yana 1532-3, Kisarazu, Chiba
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KFEVSEENKVKNVLGIEGFTNFMRSPACDIFNPLHEVYQDMOGPLCNYYIASSHNTY
LTGDQLLSQSKUDMYARVLQEGCRCVEVDCWDGPDEBEVVHHGYTLTSKILFRDVVET
INKHAFVKNEFPVILSIENHCSIQOPRIAQYLKGIFGDKLDLSSVDTGECKQLPSPG
SLKGKILVKGKKLPYHLGDDAEEGEVSDEDSADEIEDECKFLHYSNGTTEHQVESFI
RKKLESLLKESQIRDKEDPDSFTVRALLKATHEGLNAHLKQSEDVKESGKKSHGRSLM
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TNSVAAQDIVDDGTTGNVLSFSETRAHQVVQQKSEQFMIYNQKCLTRIYPSAVRIDSS
MPNPLPYWNAGCQLVALMYQSEGRMMQLMRAKFKANGNCGYVLKPQQMCKGTFNPFSG
DPLPANPKKQLILKVLSGQQLEKPBSBMFGDRGEIIDFFVEVEIIGLPVDCCKKOQTRV
VDDNGFNPVWEETLTFTVHMPEIALVRFLVWDHDPIGRDFVGQRTVTFSSLVPGYRHV
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               Submitted
                                              2 (bases 1 to 1977)
Isogai,T. and Otsuki,T.
Direct Submission
                                                                                                                                                                                                                               Isogai T., Ota, T., Hayashi, K., Sugiyama, T., Otsuki, T., Suzuki, Y., Nishikawa, T., Nagai, K., Sugano, S., Ishibashi, T., Fujimori, K., Tanai, H., Kimata, M., Watanabe, M., Hiraoka, S., Ishii, S., Kawai, Y., Saito, K., Yamamoto, J., Wakamatsu, A., Nakamura, Y., Nagahari, K., Masuho, Y. and Kanehori, K.
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(23-AUG-2000) Takao Isogai, Helix Research Institute
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Genomics Laboratory; 1532-3 Yana, Kisarazu, Chiba 292-0812, Japan (B-mail:genomics@hri.co.jp, Tel:81-438-52-3975, Fax:81-438-52-3996) NEDO human cDNA sequencing project supported by Ministry of International Trade and Industry of Japan; cDNA full insert sequencing: Research Association for Biotechnology; cDNA library construction, 5'- & 3'-end one pass sequencing and clone selection: Helix Research Institute (supported by Japan Key Technology Center
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KTMKLCRELSDLVVYTNSVAAGDIVDGTTGNVLSFSSTRAHGVVQQKSEQGPMIYNQK
QLTRIYPSAYRIDSSNFNPLFYWNAGCQLVALHVQSESCAPMQLNRAKFKANGNGGYLV
LFYGAYRIDSSNFNPLFYWNAGCQLVALHVQSESCAPMQLNRAKFKANGNGGYLL
KFQQMCKGTTNFFSGDPLPANPKKQLILKVISGQQLFKPPDSMFGDRGEIIDFFVEVE
ITGLFVDCCKDQTRVVDDNGENFVWBETLTFTVHMPEIALVMPHBDFIGRDFVGQ
RTVTFSSLVGYRHVLEGLTEASIFTHITINFTYHMPEIALVRGHKSGS
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/db_xref="GI:10434100"
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Patent: WO 0226996-A 4 04-APR-2002;
Bayer Aktiengesellschaft (DE)
Location/Qualifiers
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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71.2%; Pred. No. 1.7e-42;
rative 0; Mismatches 175;
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CATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCA 138
                              TCTGGAACTCATTGACCGCTATGAACCTTCAGACAGTGGCAAACTGCGGCATGTGCTGAG
                                                               CCAGGACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGG 132
                                                                                                 CAGCCTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTG 1264
                                                                                                                                                                TGCTGAGGTGCAGGAACTGTTTGAAAGTTTTTCAGCTGATGGGCAGAAGCTGACTCTGCT 709
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Submitted (23-AUG-2000) Takao Isogai, Helix Research Institute, Genomics Laboratory; 1532-3 Yana, Kisarazu, Chiba 292-0812, Japan (B-mail:genomics@hri.co.jp, Tel:81-438-52-3975, Fax:81-438-52-3986) NEDO human cDNA sequencing project supported by Ministry of International Trade and Industry of Japan, cDNA full insert sequencing: Research Association for Biotechnology, cDNA library construction, 5'-& 3'-end one pass sequencing and clone selection: Helix Research Institute (supported by Japan Ky Technology Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Saito, K., Yamamoto, J., Wa
Masuho, Y. and Kanehori, K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Isogai,T., Ota,T., Hayashi,K., Sugiyama,T., Otsuki,T., Suzuki,Y., Nishikawa,T., Nagai,K., Sugano,S., Ishibashi,T., Fujimori,K., Tanai,H., Kimata,M., Watanabe,M., Hiraoka,S., Ishi,S., Kawai,Y., Saito,K., Yamamoto,J., Wakamatsu,A., Nakamura,Y., Nagahari,K.,
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                                                                                                                                                                                                                                                                                                                 Similarity
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Isogai,T. and Otsuki,T.
Direct Submission
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                                                                                                                                                                                                                                                                                                                                                                                                   precursor cells after 2-weeks retinoic acid induction."
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/cell_line="NT2"
                                                                                                                                                                                                                                                                                                                                                                                                                           note="cloning vector: pME18SFL3~mRNA from NT2 neuronal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             organism="Homo sapiens"
db_xref="taxon:9606"
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e_lib="NT2RP3"
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2352 GAGGCGGCGTCCAGCTGGCAGGTGTCGTCCTTCAGCGAGACCAAAGGCCCACCAGATTCT-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1430 TGAGACTGAGCCTGAGCCCCAGGAGCAGAACCTTCAGAATAAGGACAAAAAAGAAGAAATC
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TITLE
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                                                                                                                                                                                                                                                                                                      Sus scrofa
                                                                                                                                                                                                                                                                                                                                                                         Sus scrofa phospholipase C delta 4 mRNA, AF498759
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                                                                                                                                                                           Submitted (03-APR-2002) USDA/ARS U.S. P.O. Box 166, Clay Center, NE 68933, U
                                                                                                                                                                                                                                                                                                                         Sus scrofa.
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Location/Qualifiers
                /codon_start=1
/product="phospholipase C
/protein_id="AAM18122.1"
/db_xref="GI:20269957"
translation="MASLLQGLSASPGSGLPINQDLLLMQKGMLMRKVRSKSWKKLRY/
                                                                                                  organism="Sus scrofa"
/db_xref="taxon:9823"
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CAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCTGGGT 1103 CGGATGAGTTTCGGAGAAGTCCAGCGGTTACTGCACCTGATGAATGTGGAAATGGACCAA

TTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCTGCTC 1163

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TACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCATCGTGCACCAGGAC 1403 CACGAGCCTTCAGATAGTGGCAAACTGCGGCACGTGCTGAGCCTGGACGGCTTCCTCAGC TTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAAC

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CAAGAGGAGCAGAAAGAAGGAGAACGTGCTTCTGATCTTGCTCTGGAACTCATCGACCGC

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1223

838

868

TTTGAAAACTTTTCATCTGATGGGCAGAAGCTAACACTGCTGGAATTTGTGGATTTCCTC

GGAGAAGAATTTGTAGAATTCTATAAGTCATTGACTAAGCGTGCTGAGGTGCAGGAATTG

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Query Match
Best Local Similarity
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                           AGCCTGAGCATTGGCGGGGCCCCGGGCTGCTGCACAAGCTCAACGTGAACCTGCCCCGG 1043
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TDSSNYNDOETWIAGCOMVAKMMQTAGLEMDLCDGIFRONAGCGYVLKPDFLRDAQSS
FHPERPISSKAQTILIQUISGOQLFKVDDSKEGSIVPURVEIFGVURPDTARQETS
YVENNGFNPYWGQTLCFRVLVPELALLRFVVKDYDWKSRNDFVGQYTLFWNCMQQGYR
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KRGCRCVEVDIMDGPNGEPVVYHGHTLTSRIPFKDVVAAIAQYAFQTSDYPVILSLEN
HCSWEQQEMIAHHLTEILGEQLLSTTLDGQLFTQLPSPEELRRKILVKGKKLRTLEED
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                                                               TTCCAGCGCTACCCTGACGCAGCTTCGACCCCAACTGCTGCTTCAGCATCTACCACGGC 80:
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                                      TTGCTGCGTAGCCTGGCAGAGGAGCTCCCCCCTGGAGCAGGGCTTCACCATTGTCTTCCAT 288
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                                                                                                                                                                                                                                                                                                           Friedrich,G., Zambrowicz,B. and Sands,A.T.
Human phospholipases and polynucleotides encoding the same Patent: WO 0168871-A 14 20-SEP-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 14 from Patent WO0168871. 
AX287194
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                                                                                                                               TTGGATGGGGTGCTGCCCACTCAGCTGCCCTCGCCTGAGGAGCTTCGGAGGAAGATCCTG
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Search completed: March 28, 2003, 16:25:43 Job time : 13960 secs

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10163.595 Million cell updates/sec
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIE

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328	545.2	780	1111.2	2838.4	3684.6	Score	
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AAD31082	AAH17609	AAS77856	ABL60537	ABK12390	ABA96005	ID	
Human PI-PLC-like	Human cDNA sequenc	DNA encoding novel	Human lipid metabo	cDNA encoding huma Human linid metabo	Human lipid metabo	Description	

Human cDNA differe	ABK84021	24	4242		160	45	
	ABK84127	24	4519		161	44	
prita	ABL07877	23	5370	3.6	167.4	43	
	AAH16555	22	2416		173	42	
	AAH07553	22	863		174	41	
Phospholipase C-ga	9	17	3893		176.4	40	
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cancer	ABL68492	24	4565		194.2	ა 5	
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Human polynucieoti	AAI63949	22	567		•	32	
cDNA encoding nove	AAS26989	22	567		•	ω H	
Human nervous syst	ABA13565	22	567		•	30	
Human cDNA clone (	AAH16851	22	817	٠	198.4	29	
DNA encoding inosi	AAT58225	17	5233		•	28	
Human Lipid metabo	ABA94695	24	3594		•	27	
Human phospholipas	AAD23722	24	2540			26	
Human phospholipas	AAD23723	24	2462	٠	276.2	25	
Human novel polynu	ABK94945	24	3068			24	
Human novel polynu	ABK94917	24	3068		276.8	23	
Human polynucleoti	AAI63875	22	2104			22	
DNA encoding novel	ABK43682	23	2158			21	
Gene #3294 used to	ABN96796	24	2627		289.8	20	
Human phospholipas	AAD34464	24	2211		297	19	
Nucleotide sequenc	AAH42603	22	3544		300.2	18	
Human phospholipas	AAH43471	22	3425	•		17	
Human lipid metabo	ABL60544	24	2520	6.6		16	
Human CG121 (or C5	AAD19219	22	1840		0	15	
	AAD17567	22	2709		80	14	
ndsoud 1	ABK10063	24	2629	•	08	<u>1</u> 3	
	AAD23721	24	2289	6.7	08.	12	
Novel human phosph	AAD17564	22	2289	•	B	11	
Human cDNA sequenc	AAH16211	22	3263	7.0	23.	10	

## ALIGNMENTS

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABA96005 standard; cDNA; 4237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; LME-5; lipid metabolism enzyme-5; cytostatic; neuroprotective; immunosuppressive; anti-inflammatory; cardiovascular; gene therapy; enzyme therapy; cancer; neurological disorder; autoimmune disorder; inflammatory disorder; cardiovascular disorder; ss.
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11-MAY-2000; 2000US-203511P.
25-MAY-2000; 2000US-207903P.
07-JUN-2000; 2000US-210150P.
23-JUN-2000; 2000US-213392P.
                                                                                                                                                                                                                                                11-MAY-2001; 2001WO-US15210
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/product= "LME-5"
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Matches 3926; Query Match IME may be used for somatic or germline gene therapy, to detect and quantity gene expression in biopsied tissues in which expression of IME may be correlated with disease, to generate a transcript image of a tissue or cell type, to generate hybridization probes useful in mapping the naturally occurring genomic sequence, and for screening libraries of compounds in drug screening techniques. The polypeptide sequences may be used to analyse the proteome of a tissue or cell type. Oligonucleotide primers derived from polynucleotide sequences encoding LME may be used to Sequence 4237 BP; 816 A; 1327 C; 1370 G; 724 T; 0 other; invention have cytostatic, neuroprotective, immunosuppressive, anti-inflammatory, and cardiovascular activity. The polypeptides and polynucleotides have a use in gene therapy and enzyme therapy. The lipid metabolism enzymes are useful in the diagnosis, treatment and prevention of cancer, neurological disorders, autoimmune/inflammatory disorders, and cardiovascular disorders, and in the assessment of the effects of exogenous compounds on the expression of nucleic acid and amino acid sequences of lipid metabolism enzymes. LMEs may also be used to screen for compounds that modulate the activity of LME. Polynucleotides encoding that may have a need for sometic or expression. The sequence encodes a novel human lipid metabolism enzyme (LME-5) the invention. The invention relates to novel human LME's, and the polynucleotides which identify and encode them. The enzymes of the invention have cytostatic, neuroprotective, immunosuppressive, detect single nucleotide polymorphisms.  $N_{\rm ew}$  lipid metabolism enzymes useful for diagnosing, treating and preventing cancer, neurological disorders, autoimmune/inflammatory  $d_{\rm i}^{\rm i}$  sorders, and cardiovascular disorders -Claim 5; Page 121-122; 122pp; English. P-PSDB; ABB08205. Ding L, Das D, 447 906 846 327 267 726 207 999 909 546 GTGGAGCGGTGCATGGGTGCCATGCAAGAGGGGGATGCAGATGGTGAAGCTGCGTGGCGGC 605 (INCY-) INCYTE GENOMICS INC. 387 786 147 87 Local Similarity GGGCGGCAGTCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGC 785 AGCCTGGCTCGCCGCCAGCGCACCAGGGACCAATATCCTTGGGCACCTATCGGGCAATGC 506 AGCCTGGCTCGCCGCCAGCGCACCAGGGACC-----TCCAAGGGCCTGGTCCGCTTCTACTACCTGGACGAGCACCGCTCCTGCATCCGCTGGAGG 206 TCCAAGGGCCTGGTCCGCTTCTACTACCTGGACGAGCACCGCTCCTGCATCCGCTGGAGG 665 D, Reddy R, Yao MG, Nguyen DB, Lu Y, Triboule FA, Gandhi AR, Au-young J, Lal P, Kearney L, L, Thornton M; GTGGCGCACCTGGGTCACTGGCCTACCTCATGGCCGGCATCAGCGACGAGGAC 446 TTCAGCATCTACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAG GGGCGGCAGTCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGC GTGGAGCGGTGCATGGCATGCAAGAGGGGATGCAGATGGTGAAGCTGCGTGGCGGC 146 2002-089794/12. TTCAGCATCTACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAG Conservative 79.5%; Score 3684.6; 94.6%; Pred. No. 0; 0; Mismatches DB 24; Length 4237; Tribouley CM, Yue H; sarney L, Elliott VS; 4; Indels 219; Gaps 936 386 845 326 ဝှု 2

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1826 1586	1767 AGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTCGTG	Qy db
1766 1526	1707 AAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGACCTGTCATCAGTG	Q <b>y</b>
1706 1466	47	Qy Db
1646 1406	1587 ACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAATATGCCTTC	D Qy
1586 1346	1527 TGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGCTAC	B 8
1526 1286	1467 CAGCTICATGTICCCAGTCACGGGTGGACATGTAATGCTTGGGTCCTGCAGGCTGGCT	da Vy
1466 1226	40 ACGLAGECGCTGAGCCACTACTTCATCACTCACTCACTCATCACTCATCACTCATCA	8 8
	107 ACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACC	្
10	047 GAGCCATGCCCAGAAAACAAGAGTAAAGGGGCTGCTGGGCATTGATGCCTTCACCAAC	€ B ;
1046	287 GAGCCATGCCCAGAAAACAAGAGAGTAAAGGGGCTGCGCATTGACCACTAA	0 B 1
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9 9	107 GAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCTGCTCAT	B 8
1106	6707 ACCCAAGGCCTTGCATTC	Db Qy
806	747 CTGGAGCAAGGGAAGCTGGCCTGCTCACAGGACAGGGCCCTGGTCGAGGTGCCAATGGGG	Db
1066	1067	Qy
1066	1026 AACGTGAACCTGCCCCGGCAGAGGGTGAAGCAGATGTTCAG	D 29
1025	966 GACAAGAACGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCCAGCTGCAAGCTC	Db 09
626	67 CACACTGGGGAAGTGGCCGGCCAGAGGGTGGAGTGGCTGAAGCAGACGTTTGACGAGGC	Db
965	37	8
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1867 AAGGGANGATGCTTAGAAACATTCAGGANGAAGGAAGGAAGGAAGGAAGGAAGGAAGGTCTCTAT 1646   Cy
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3987 GTGCTCGTGGCTCTGTATCCGTGGCACTGTCTCCGTGGCACTCTGCCTCGCTTGGCTTGCC 4046	8d 8d
3927 ATGGCTGGGCCTGGGTCACCTGCTGCTGCTGCGTGGACGGTGTCGCCTCGTGTGCCTC 3986	상
3867 CCCATGTTCTCCGCCGGTAAGCCCCTCTTGCCCTGCGTGGTCCTCCCGCACGCCCCTGGC 3926	dg VQ
CTTGTTTGCTCAAAAGCTGGAGGAGATCAGGAGTAAATCC 38 	dg VQ
3747 CCGGGCATCCCCGAAAGGTCCCCCCGCTGGCCTGAGGGTGCCTGCAGGCAACCGGGGGCC 3806	od VQ
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3627 GGCCTGGACCCTCACGCTATCCCGGGGAGAAGCAGAGAGGCCCCCAAGGGTCCTGGGGCC 3686	Qy db
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3=3	dg Qy
447 GGCCCCGGGCCTGCTGGGATGGCCGCCACATGCATGCAGTGTGTGGTGGGATCCTGCGCC 35	Db Qy
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GCCAGAAGCCGGGCCGCAGGGGCTTCCCGGAGCTGGTC 32 	Å 4
9 1	р <i>Q</i>
087 AAGCAGGCTCTGGGCCTAAAAGGCCTCTTCCTCCGAGGCCCA 	Db Qy
027 GGGATGGAAGAGGCCTCCATCTTCGTGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTC 308 	Qу
967 GGCCAGAGGACGCTGGCCTTCAGCAGG 	dg Qy

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RESULT 2
ABK12390
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      WPI; 2002-280936/32
                                                                                   Griffin JA, Patterson C, Gas
Walia NK, Hafalia AJA, Ding
                                                                                                                                                                                                                                  23-AUG-2000; 2000US-227429P.
08-SEP-2000; 2000US-231370P.
15-SEP-2000; 2000US-233212P.
29-SEP-2000; 2000US-236865P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human; lipid metabolism enzyme; LMM-6; immune system disorder; neurological disorder; developmental disorder; cancer; nootropic; cell proliferative disorder; immunomodulator; neuroprotective;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              W0200216597-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cDNA encoding human lipid metabolism enzyme, LMM-6.
                                                                                                                                                                                                                                                                                                                                                                                        22-AUG-2001; 2001WO-US26365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'product= "LMM-6"
                                                                                   Gandhi AR, Lu Y, Y
Ding L, Tribouley CM,
                                                                                                            Yao
                                                                                   o MG,
Das D,
                                                                                   Baughn MR;
, Thornton
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Matches 3342; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                polynucleotide sequences encoding them. The LMM polypeptides, polynucleotides, agonists and antagonists are useful for diagnosing, treating or preventing disorders associated with aberrant expression of LMM, particularly immune system disorders (e.g. acquired immunodeficiency syndrome (AIDS), thymic hypoplasia, anaemia, asthma or Crohn's disease), neurological disorders (e.g. epilepsy, Huntington's disease, dementia or Parkinson's disease), developmental disorders (e.g. bown's syndrome) or cell proliferative disorders (e.g. cancers including adenocarcinoma, leukaemia, lymphoma, melanoma, myeloma or sarcoma). The present sequence encodes for human LMM-6.
                                                                                                                                                                                                                                                                                                                         1828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1708 TTCAGCATCTACCACGCCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New lipid metabolism enzymes, useful for diagnosing, treating or preventing immune system disorders (e.g. Crohn's disease), neurological disorders (e.g. Parkinson's disease), or cell proliferative disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 6551 BP; 1230 A; 2108 C; 2172 G; 1041 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        metabolism enzymes (LMM) designated LMM-1 to LMM-6, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present invention relates to the isolation of human lipid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 56; Page 120-122; 122pp; English.
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AACGTGAACCTGCCCCGGCAGAGGGTGAAGCAGATGTTCAGGGTGGCTGGTCATGCCTGG
                                       AACGTGAACCTGCCCCGGCAGAGGGTGAAGCAGATGTTCAG-
                                                                                                      GACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCTGCACAAGCTC
                                                                                                                                                          CACACTGGGGAAGTGGCCGGCCAGAGGGTGGAGTGGCTGAAGCAGACGTTTGACGAGGCC
                                                                                                                                                                                                                                      AGACCCAGGGACCGGCCCCTTGGCTGCTCACCCTGGGGGGGCCTGTCCTTTGCCGGGTCA 1947
                                                                                                                                                                                                                                                                                                                   AGCCTGGCTCGCCGCCAGCGACCAGGGACCAATATCCTTGGGCACCTATCGGGCAATGC 1887
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87.7%;
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                                                                                                                                                                                     -AGTGGCTGAAGCAGACGTTTGACGAGGCC
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CACTGCTAAGAGGAAACTGGATTCCCTCATCAAAGAGTCG 200                      CACTGCTAAGAGGAAACTGGATTCCCTCATCAAAGAGTCG 314	947 AATCGAAAGCGTGTAGAAAACACTG 	g 8
ATTGACGATGACTGCAAGCTCCTCAATGGGGATGCATCCACC 1946                  ATTGACGATGACTGCAAGCTCCTCAATGGGGATGCATCCACC 3087	)87 GAGGACAGTGCTGATGAGATTO 	B 정
GCCAACATCAGCGAGGATGCGGAGGAAGGCGAGGTGTCTGAT 1886 	827 AAGGGGAAGAAGCTCCCAGCCA 	g &
ACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTCGTG 1826	767 AGCAGTGAAGATGCCACCACACTCCC	B 8
TCTGACTGACATCCTTGGGGACAAGCTGGACCTGTCATCAGTG 1766	707 AAGAAATGGCCCAGTATCTGACTGA	B 8
YTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAGCAG 1 	7 ATCAAGAATGAGTACCCAGTGATCCTV 	유 성
CTCTTCAAAGACGTCATTGAAACCATCAACAATATGCCTTC 1646 	587 ACTCTGACTTCCAAGATCCTCTT	D Qy
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CAGTCACGGGTGGACATGTATGCTTGGGTCCTGCAGGCTGGCT	467 CAGCTCATGTCC           608 CAGCTCATGTCC	망양
ACCTACCTCGTGGGT	407 ACGCAGCCGCTG             548 ACGCAGCCGCTG	B 8
GACATCTTCAACCCTGAGCACCACCATGTGCACCAGGACATG 1406                  	347 ACCAGGAGCCCTGCTGGTGAC	gg Qy
AAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAACTAC 1346                 RAGAGTAAGGGCTGCTGGGCATTGATGGCTTCACCAACTAC 2487	1287 GAGCCATGCCCAGAAAACAAGAGTAAGGGG 	g 99
GGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAGTTT 1286	227 GTGGAGCAGAAGATGGCGGGTGTGA 	g 9
AAGGACCACCTGGATGCCGCCAGCCTGCAGCGTTCCTGCAG 1226                    AGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCAG 2367	167 CTGACCTACAGCAACCACAAGGACCAC 	Db Qy
TACAAGATGATGTCCACCGCCGGGACCTCTACCTGCTCATG 1166	.107 GAAGAGTTCTGTGCCTTC	B 8
GGAAGCGGACACGGATGACCACCAAGGGACGCTGGGTTTT 1106               	GGAA(      	망 성
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GC 2969 	2910 ATCGCGCTGGTCCCCTTCCTCGTCTGGGACCACGATCCCATCGGCGTGACTTCATTGG	Db Qy
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ດ້ ດ້ 2 4	168 GAGGTGGAGATCATTGGGCTCCCTGTGGACTGCAGCAGGAGGCAGACCCGCGTGGTGC BEA CANAACCCCTTTAAACCCCACTGTGGACTGCAGCAGGGAGCAGACCCGCGTGGTGCGCG	Db 4
C 284	790 GAGGTGGAGATCATTGGGCTCCCTGTGGACTGCAGGAGGGAG	
ି - 41	108 CTTCCCAAGCCGCGACTCCATGCTGGGGGACCGTGGGGAGATCATCGACCCCTTTC	Ŭ
rg 278	730 CTTCCCAAGCCGCGCGACTCCATGCTGGGGGACCCGTGGGGGAGATCATCGACCCCTTTC	•
10	670 GACCCCCTGCCCGGCAGACCTCAAGAAGCAGCTGGTGCTCCCGGATCATCAGTGGCCAC	Db 4
272	988 TGCGGCTACGTACTCAAGCCTGGGTGCATGTGCCCCCATGTTCATCACTCCCCAG	
ე—ი	610 TGCGGCTACGTACTCAAGCCTGGGTGCATGTGCCAGGGCGTGTT	
GC 39	928 TACCAGTCAGAGGGCCGATGCTGCAGCTGAACCGAGCCAAGTTCAGCGCCAACGGTG	Db 3
GC 260	550 TACCAGTCAGAGGGGGGGATGCTGCAGCTGAACCGAGCCAAGTTCAGCGCCAACGGTG	
Ω- ω	868 TCCAGCAACTACAACCCGCAGCCCTTCTGGAACGCCGGCTGCCA	Db 3
C 254	490 TCCAGCAACTACAACCCGCAGCCCTTCTGGAACGCCGGCTGCCAAATGGTTGCCCTC	
C 386	430 TACCTRACCTTCAACCACCAGCAGCTCTTCCCGCATCTACCCCTCCTACCGTGTGGA	ОУ 2 Db 3
a a	748 CAGGTGTCGTCCTTCAGCGAGACCAAGGCCCACCAGATTCTGCAGCAGAAGCCGGCG	
) — 0	370 CAGGTGTCGTCCTTCAGCGAGACCAAGGCCCA	
G 37	688 GTGAAGTACACCAAGTCCGTGGCCACCCACGACATAGAGATGGAGGCGGCGTCCAGCT	w
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AG 3447	GTGTCTGTGGTCATGAGAGCTACAGTGGCCTCTTTGCAGCAGTGTGGGAGCATCC	ω
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C 3387	!TCCAGGCTGGGGAGAGCGGGCAGCAGTCGGAGCTGTTTGCTGTGGCGTGGCTGAGCG	ω
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°C 3267	08 AAGCTCGGACGCAAGGTAGAGGCCAAAAAGGTGACACCCCTGATGCCGACAGGCCCCCC	Db 32

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07-JUL-2000; 2000US-216801P.
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14-JUL-2000; 2000US-218233P.
21-JUL-2000; 2000US-220046P.
26-JUL-2000; 2000US-220739P.
04-AUG-2000; 2000US-222824P.
                                                                                                                                                                      The invention provides human lipid metabolism molecule (LMM) polypeptides and polynucleotides. The LMM polypeptides can be expressed by standard recombinant methodology. The LMM polypeptides are useful for diagnosing or treating a condition or disease associated with the expression of LMM, or screening for compounds that specifically bind to or modulate the activity or expression of LMM. They are also used to generate antibodies
                                                                                                                                                                                                                                                                 Claim
                                                                                                                                                                                                                                                                                         cancers, and neurological , autoim skin and cardiovascular disorders
                                                                                                                                                                                                                                                                                                 Lipid metabolism molecules useful in diagnosing, treating or preventing cancers, and neurological, autoimmune/inflammatory, gastrointestinal,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               06-JUL-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          anticonvulsant;
cardiovascular;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cancer; gene therapy; protein therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Lipid metabolism molecule; LMM; cytostatic;
                                                                                                                                                                                                                                                                                                                                                                                                                                  (INCY-) INCYTE GENOMICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human lipid metabolism molecule (LMM) cDNA (ID:
                                                                                                                                                                                                                                                                                                                                                       2002-164631/21.
                                                                                                                                                                                                                                                               5; Page 123-124; 128pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     immunosuppressive; anti-inflammatory; dermato1091ca1;
antiHIV; antiemetic; antiallergic; hypertensive; human;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /product= "LMM"
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Khan FA, Lu Y, Ya
l P, Ramkumar J, Ng
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                                                                                                                                                                                                                                                                                                                                                                             AM, Tribouley CM;
Yao MG, Hafalia
Nguyen DB, Baugn
                                                                                                                                                                                                                                                                                                                                                                                           Hafalia AJA;
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and assess the toxicity of test compounds. The LMM polypeptides, modulators and antibodies are specifically useful for diagnosing, treating or preventing cancers (e.g. adenocarcinoma, lukemia, lymphoma, melanoma or sarcoma), neurological disorders (e.g. epilepsy, stroke, cerebral neoplasma, Alzheimer's disease or Pick's disease), autoimmune/inflammatory disorders (e.g. AlDS, Addison's disease, allergies, asthma, or atherosclerosis), gastrointestinal disorders (e.g. dysphagia, peptide esophagitis, gastritic carcinoma, anorexia or nausea), skin disorders (e.g. hypertension, arterial dissections, vascular tumours, or thrombolysis). The present sequence represents a human LMM polynucleotide polynucleotide

Sequence 2243 BP; 499 A; 678 C; 691 G; 375 T; 0 other;

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                              GGCCCTGAGGCTGAGGGCTGAGTGCTCATTCCAGCCGCCTCGGGGAACCCCGGGCTGGGA 171
                                                         46.6%; Score 2161.4; ilarity 100.0%; Pred. No. 0; Conservative 0; Mismatches
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1252 CCCTCGAGAGCTGCCAGGACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTA 1	8
1192 ACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGA	용 성
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1072 CGGACACGGATGACCACCAAGGGACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACAAG 	B 8
1012 TGCTGCACAAGCTCAACGTGAACCTGCCCCGGCAGAGGGTGAAGCAAGTGTTCAGGGAAG	용 성
952 CGTTTGACGAGGCCGACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGC	B 8
892 TCAGCGACGAGGACAGCCTGGCTCGCCGCCAGCGACCAGCGGACCAGTGGCTGAAGCAGA	음 성
832 CCACCAGCAGCGAGGTGGCGCGCACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCA	유
772 ACCCCAACTGCTTCAGCATCTACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCT	음 성
712 AGGAGGTGAGTGAGGGGGGGAGTCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCG	유
652 GCATCCGCTGGAGGCCCTCACGCAAGAACGACAAGGCCAAGATCTCCATCGACTCCATCC	음 성
592 AGCTGCGTGGCGGCTCCAAGGGCCTGGTCCGCTTCTACTACCTGGACGAGCACCGCTCCT	유 성
532 ACATTCTGCCCGTGGTGGAGCGGTGCATGGGTGCCATGCAAGAGGGGATGCAGATGGTGA	ል የ
472 CTCTTCCGCCTGAGGACCCAGGGCCGGATCCGGAGAGCAGGTGGCTTTTCTTGAGCGCCA	유왕
412 CGACAGTCCTCAGTCCCTCCATGATGGCTCCCCGACAGCCGGCCCCCTTCCTGGCCCAG	B &
352 TGGACGGCCGGCCCCAGCTGGTGATCCCAGCCAGCTTTCAGTTGCTGCCCCCAC	유 상
292 AAGGGACACCGGGGGCCCTGGGAGCAGAGAGACCTCAGAGCAGCCTCCTCCTGCCTCCTGC	A 4
232 GGGCTGGGCACCACCAGGCTTGGGTGTGATGCGCTGCTGGCCCAGGCTACACCCCGAC	A 5
61 GACCCCATGCCTGGGGGTGAGCCTGGAGCCAGGGCAGTGCGGTGAGAGGCTCCGGAGAGA	Вb

RESULT 4 ABL60537

Db 216	N	Db 210	ນ		Qy 209 Db 198	-	Фу 203	18		Qy 191 Db 180		ь	Db 168	Qy 179	6	173	_	· •	50	161	Qy 155 Db 144		Оу 149	Db 132	143	N	_	120	131	Db 114:
61 AGA 2163	72 AGA 2274	ACAMOGRAM   INCOME   INCOME	ADOOO VADOOO OO	52 TGGGAAGCTTCTCCAGGCGCAAGAAGAAGGGCAGCCAAGCTGAAGAAGGCGGCCAGCGTGG 2211	2 AAGAGGACGTGGAGTCTGGGGAGGATGCCGGGGCCAACAGACGCAATGGCCGCCTC 	1 ACAACTTCTCCGTCTCCACACTGTCCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGGCTG 19	2 ACAACTTCTCCGTCTCCACACTGTCCCCATCTGGAAAGGTCGGAAGGAGCAAGAGCAAGGCTG 209		OOOASSASTEDITO ASSSOUTHAS A ASOLID AS A A CHI ACCIONO CA COLLO COLLO CA CASOLIO CASOLIO CA CASOLIO	ATGACTGCAAGCTCCTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAACACTG	1 TCAGCGAGGATGCGGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGAC	52 TCAGCGAGGATGCGGAGGAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACG 1911	1. CCTCTCCACAGAGATGCTCAAGGGGCAAGATCCTCGTGAAGGGGGAAGAAGCTCCCAGCCAAC	-0		2 ACATCCTTGGGGACAAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACCACACT		2 TGTCCATCGAAAACCACTGCAGTG	1 AAGACGTCATTGAAACCATCAACAATATGCCTTCATCAAGAATGAGTACCCAGTGATCC 15	2 AAGACGTCATTGAAACCATCAACAAATATGCCTTCATCAAGAATGAGTACCCAGTG	2 GGCCCGACGGGGAGCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCA 1611	1 ACATGTATGCTTGGGTCCTGCAGGCTGGCTGCCGCTGGAGGTGGACTGCTG	2 ACATGTATGCTTGGGTCCTGCAGGCTGGCTGCCGCTGCGTGGAGGTGGACTGCTGGGATG 1551	CACCTCGTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACG	2 TCACCTCGTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGG 1491		CAACCCTGAGCACCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTI	1 AGGGGCTGCTGGGCATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACATCT 1260	AGGGGCTGCTGGGCATTGATGGCTTCACCAACTACACCAGGAGCCCT	1 CCCTCGAGAGCTGCCAGGACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTA 1200

ABL60537 standard; cDNA; 3433 BP

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                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                            The invention relates to human lipid metabolism enzymes (LMEs) and encoding polynucleotides. The LMEs can be expressed by standard recombinant technology. The LME polypeptides, polynucleotides and modulators may be used in the prevention, diagnosis and treatment of diseases associated with inappropriate LME expression such as cancer (e.g. myeloma, sarcoma and breast cancer), neurological disorders (e.g. Parkinson's, Altheimer's and multiple sclerosis), microbial infections (e.g. Creutzfeld-Jakob disease and Acquired Immune deficiency syndrome (AIDS)) and/or cardiovascular disorders (e.g. cardiomyopathy, angina contracts and mitrol cardiovascular disorders (e.g. cardiomyopathy, angina
                                                                                                                                                                                                                                                                                                               Sequence 3433 BP; 1042 A; 741 C; 842 G; 808 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Lipid Metabolism Enzymes and nucleic acids, useful for preventing, diagnosing and treating e.g. cancer, Alzheimer's disease and Creutzfeld-Jakob disease -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Harland L, A...
                                                                                                                                                                                                                                                                                                                                                                                                 pectoris and mitral valve prolapse). The present sequence represents the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 5; Page 121-122; 127pp; English.
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13-OCT-2000; 2000US-249616P.
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                polypeptide (II) sequences. (I) is useful as hybridisation probes, polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The polymucleotides are also used in diagnostics as expressed sequence tags for identifying expressed genes. (I) is useful in gene therapy techniques to restore normal activity of (II) or to treat lies are states involving (II). (II) is useful for generating antibodies against it, detecting or quantitating a polypeptide in tissue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical inacting of sites expression (II).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
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Note: The sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from WIPO
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                                            CTCAATGGGGATGCATCCACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTG
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AAD31081 standard; cDNA; 5551
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PI-PLC-like enzyme; chromosome 3; asthma; cancer; central nervous s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human PI-PLC-like enzyme encoding partial cDNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAD31081;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Isolated polynucleotides encoding human phosphatidylinositol-specific phospholipase C-like enzymes, useful for preventing, diagnosing and treating e.g. asthma, cancer, a CNS disorder or chronic obstructive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     04-APR-2002
                                                                                                                                                                                                                           e.g. asthma, cancer, central nervous system (CNS) disorder (e.g. parkinson's disease, dementia) and chronic obstructive pulmonary disease (COPD). The polynucleotide and polypeptide may be used to treat disorders associated with decreased PI-PLC-like enzyme expression by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           27-SEP-2000; 2000US-235552P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24-SEP-2001; 2001WO-EP11012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200226996-A2
                                                                                                                                                                                                                                                                                                     polynucleotide may be used in the prevention, diagnosis a treatment of diseases associated with enzyme dysfunction,
                                                                                                                                                                                                                                                                                                                                            phosphatidylinositol-specific phospholipase C-like enzyme (PI-PLC-like enzyme). Human PI-PLC-like enzyme gene is located chromosome 3. The PI-PLC-like enzyme polypeptide and
                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to polynucleotide encoding human
                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 1; Fig 1; 125pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P-PSDB; AAE14673.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (FARB ) BAYER AG
expression and activity. The anti-ri-ric-line configuration and activity antagonists may be used to down-regulate expression and activity the enzyme and as diagnostic agents for detecting the presence of the enzyme and as diagnostic agents for detecting the presence of the enzyme in namples. The present sequence is human
                                                       as DNA probes in diagnostic assays to detect and quantitate the presence of similar nucleic acids in samples. The PI-PLC-like enzymes may also be used as antigens in the production of antibodies and in assays to identify modulators of PI-PLC-like enzyme expression and activity. The anti-PI-PLC-like enzyme antibodies and
                                                                                                                                                                     rectifying mutations or deletions in a patient's genome that affect activity of PI-PLC-like enzymes, by expressing inactive proteins or supplement the patients own production of PI-PLC-like enzymes.
                                                                                                                                                   polynucleotide and its complements may also be used
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              partial cDNA
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RESULT 7

AAH17609 standard;

cDNA; 1977

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61

Matches Query Match Best Local

987;

Conservative

0

Similarity

11.8%;

Score 545.2; DB Pred. No. 1.8e-93 Mismatches

DB 22;

Length

588; Indels

29;

Gaps

9

CTATCGAGAATCACTGCAGTATCCAGCAGCAAAGGAAGATTGCTCAGTACCTGAAAGGAA 60

1735 TCCTTGGGGACCAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACCACCACCCCCT 1794

TATTCGGAGACAAACTGGACCTGTCATCTGTTGATACAGGGGAGTGCAAGCAGCTTCCAA 120

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The present invention describes primer sets for synthesising 5602 (C full-length cDNAs defined in the specification. Where a primer set CC comprises: (a) an oligo-dT primer and an oligonucleotide complementary (C to the complementary strand of a polynucleotide which comprises one of C the 5602 nucleotide sequences defined in the specification, where the CC oligonucleotide comprises at least 15 nucleotides; or (b) a combination (c of an oligonucleotide comprising a sequence complementary to the CC complementary strand of a polynucleotide which comprises a 5'-end (C sequence and an oligonucleotide comprising a sequence complementary to a combination of CC the 5'-end sequence comprises a 3'-end sequence complementary to a coligonucleotide which comprises a 3'-end sequence, where the CC polynucleotide comprises at least 15 nucleotides and the combination of CC the 5'-end sequence'3'-end sequence is selected from those defined in CC in gene therapy. The primers are useful for synthesising polynucleotides, and in gene therapy full-length cDNAs. The primers are also useful for the CC particularly full-length cDNAs. The primers are buseful for synthesising polynucleotides, CC the full-length cDNAs. The primers allow obtaining of the full-length CDNAs easily without any specialised methods. AAH3363 to AAH3362 and CC AAH3563 to AAH3672 represent human amino acid sequences; and AAH31629 to AAH3632 cof the present invention.
Sequence 1977 BP; 634 A; 429 C; 457 G; 457 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 8; SEQ ID 17123; 2537pp + CD ROM; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Primer sets for synthesizing polynucleotides, particularly the 5602 full-length cDNAs defined in the specification, and for the detection and/or diagnosis of the abnormality of the proteins encoded by the full-length cDNAs
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02-MAY-2000; 2000JP-0183767
09-JUN-2000; 2000JP-0241899
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27-AUG-1999;
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                                        the present invention.
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C, Otsuki
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AACCCCACCTGGGAGAGCCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGTC
                                                                                                                                                CCAGACTCCATGTTTGGAGATCGAGGCGAGATCATTGACCCTTTTGTTGAAGTTGAAATT
                                                                                                                                                                                                CGCGACTCCATGCTGGGGGACCGTGGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATC
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                                                                                                                                                                                                                                                                                                    GGGCAGCTCAAGAAGCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCG
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                                                  ATTIGGATTIGCCAGTAGATTGTTGTAAAGATCAAACCCGTGTGGTAGATGACAATGGATTT
                                                                                              <u>ATTGGGCTCCCTGTGGACTGCAGCAGGGAGCAGACCCGCGTGGTGGACGACAACGGGTTC</u>
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C polynucleotides and their associated polypeptides (DITHP polypeptides).

C The sequences of the invention are used in the treatment and diagnosts of CC cell proliferative disorders (e.g. atherosclerosis, cirrhosis), cancers

C cervix, kidney, lung, owary, pancreas, prostate, skin, spleen, testis or thymus), autoimmune/inflammatory disorders (e.g. asthma, bronchitis, CC psoriasis, obteoporosis), viral infections, bacterial infections, fungal infections, parasitic infections, developmental disorders (e.g. anaemia, CC pilepsy), seizure disorders (e.g. cerebral palsy, spina bifida), CC endocrine disorders (e.g. thrombosis, aneurysm), metabolic disorders (e.g. obseity, diabetes), neurological disorders (e.g. stroke, and transport disorders (e.g. myotrophic lateral sclerosis, multiple sclerosis), gastrointestinal CC disorders (e.g. ulcerative colitis, lysinuria) and transport disorders (e.g. myotronic dystrophy, catatonia, peripheral neuropathy). Sequences ABK71835-ABK71809 represent human dithp polynucleotides of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local :
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07-SEP-2000; 2000US-230951P.
07-SEP-2000; 2000US-231163P.
07-SEP-2000; 2000US-231167P.
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TGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGCTAC
                                                                 CAGCTCATGTCCCAGTCTCGGGTGGACATGTATGCCTGGGTCCTGCAGGCCGGCTGCCGC
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Sequence 646 BP; 168 A; 161

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RESULT 9
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                                                                                                 The invention relates to polynucleotide encoding human CC phosphatidylinositol-specific phospholipase C-like enzyme (PI-PLC-like enzyme). Human PI-PLC-like enzyme gene is located on CC chromosome 3. The PI-PLC-like enzyme polypeptide and C polynucleotide may be used in the prevention, diagnosis and C polynucleotide may be used in the prevention, diagnosis and C reatment of diseases associated with enzyme dysfunction, C e.g. asthma, cancer, central nervous system (CNS) disorder (e.g. C Parkinson's disease, dementia) and chronic obstructive pulmonary disease (COPD). The polynucleotide and polypeptide may be used to treat C disorders associated with decreased PI-PLC-like enzyme expression by crectifying mutations or deletions in a patient's genome that affect the C crectifying mutations or deletions in a patient's genome that affect the C crectifying mutations or deletions in a patient's genome that affect the C supplement the patients own production of PI-PLC-like enzymes. The polynucleotide and its complements may also be used C as DNA probes in diagnostic assays to detect and quantitate the presence of similar nucleic acids in samples. The PI-PLC-like enzymes and activity. The anti-PI-PLC-like enzyme antibodies and complements may also be used to dentify modulators of PI-PLC-like enzyme antibodies and complements may be used to down-regulate expression and activity of the enzyme antibodies and complements and activity of the present sequence is human of C c pI-PLC-like enzyme antibodies. The present sequence is human of C pI-PLC-like enzyme and activity of the present sequence is human of C pI-PLC-like enzyme.
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                                          expressed sequence tag
                                                              PI-PLC-like enzyme in samples. The present sequence is human phosphatidylinositol-specific phospholipase C-like enzyme enc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Fig 4; 125pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Isolated polynucleotides encoding human phosphatidylinositol-specific phospholipase C-like enzymes, useful for preventing, diagnosing and treating e.g. asthma, cancer, a CNS disorder or chronic obstructive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2002-372128/40
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human; phosphatidylinositol-specific phospholipase C-like enzyme; PI-PLC-like enzyme; chromosome 3; asthma; cancer; central nervous system; CNS disorder; Parkinson's disease; dementia; CODP; protein therapy; chronic obstructive pulmonary disease; gene therapy; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24-SEP-2001; 2001WO-EP11012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    W0200226996-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              expressed sequence tag; EST; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (FARB ) BAYER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human PI-PLC-like enzyme expressed sequence tag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           26-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAD31082 standard; cDNA; 646 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAAACCATCAACAAATAT 1640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGTGTGGAGGTGGACTGCTGGGATGGGCCTGATGGGGAACCCATTGTCCACCATGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         entry)
                                            (EST).
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RESULT 10
AAH16211
ID AAH16211
XX AAH16
XX AAH16
XX AAH16
XX AAH16
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XX Humar
XX Homo
XX Homo
XX EP107
X
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Best Local
29-JUL-1999;
27-AUG-1999;
11-JAN-2000;
02-MAY-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1678
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                                                                                                                                                                                                                                                                                                                                                                                                    Human; primer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human cDNA sequence SEQ ID NO:15019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26-JUN-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAH16211 standard; cDNA; 3263 BP
                                                                                                                                                         28-JUL-2000; 2000EP-0116126
                                                                                                                                                                                                                   07-FEB-2001.
                                                                                                                                                                                                                                                                                EP1074617-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGCTGGGCATTGATGGCTTCACCCAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACC 1377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGTCCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGGACATGT 1497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CATTGCACCATGAAGTGTACCAAGACATGGATCAGCCCCTCTGCAACTACTACATTGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGAGCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCT 1437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           433;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TIGGGGACAAGCIGGACCIGTCATCAGIGAGCAGIGAAGATGCCACCACACTCCCCTCIC 1797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCATTGAAACCATCAACAAATATGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGGAGAGCCAGTAGTACATCGTTACACTCTCACTTCAATAATTCTCTTCAGAGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACGGGGAGCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGCTTGGGTCCTGCAGGCTGGCTGCCGCTGGGAGGTGGACTGCTGGGATGGGCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCTCTCACAATACATACCTGTCTGGAGACCAGCTCCTTTCTCAGTCCAAAGTGGATATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCAAATTC 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCAAGCTC 1925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGATGCAGAGGAAGGGTTTCCGATGAGGACAGTGCAGATGAAATTGAAGATGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGGATGCGGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGACT 1917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTCAAAGTTTGAAAGGCAAAATTCTAGTGAAGGGTAAGAAGTTGCCTTATCACCTTGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CACAGATGCTCAAGGGCAAGATCCTCGTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCGGAGACAAACTGGACCTGTCATCTGTTGATACAGGGGAGTGCAAGCAGCTTCCAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCGAGAATCACTGCAGTATCCAGCAGCAAAGGAAGATTGCTCAGTACCTGTTAGGAATAT 217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTGTGGAGACCATCAACAAGCCTGCCTTTGTGAAGAATGAGTTTCCTGTTACATTGTCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGCACGGGTGCTGCAAGAGGGCTGTCGCTGTGGGAAGTTGACTGTTGGGATGGCCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
      2000JP-0183767
                                                            99JP-0248036.
99JP-0300253.
                                                                                                                                                                                                                                                                                                                                                                                                detection; diagnosis; antisense therapy; gene therapy; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7.1%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 328; DB 24;
Pred. No. 1.3e-52;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches 175;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 646;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           37
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      397
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the specification. The primer sets can be used in antisense therapy and in gene therapy. The primers are useful for synthesising polynucleotides, particularly full-length cDNAs. The primers are also useful for the detection and/or diagnosis of the abnormality of the proteins encoded by the full-length cDNAs. The primers allow obtaining of the full-length cDNAs easily without any specialised methods. AAH03166 to AAH13628 and AAH13633 to AAH18942 represent human achia sequences; AAB92446 to AAH36332 represent oligonucleotides, all of which are used in the exemplification of the number of the protein sequences.
                                                                                                                                                                                                                                                                                                                                                         comprises: (a) an oligo-dT primer and an oligonucleotide complementary to the complementary strand of a polynucleotide which comprises one of the 5602 nucleotide sequences defined in the specification, where the oligonucleotide sequences at least 15 nucleotides; or (b) a combination of an oligonucleotide comprising a sequence complementary to the complementary strand of a polynucleotide which comprises a 5'-end
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  primer sets for synthesizing polynucleotides, particularly the 5602 full-length cDNAs defined in the specification, and for the detection and/or diagnosis of the abnormality of the proteins encoded by the
                                                                                                                                                                                                                                                               sequence and an oligonucleotide comprising a sequence complementary to a polynucleotide which comprises a 3'-end sequence, where the oligonucleotide comprises at least 15 nucleotides and the combination of the 5'-end sequence/3'-end sequence is selected from those defined in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present invention describes primer sets for synthesising 5602 full-length cDNAs defined in the specification. Where a primer set
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 8; SEQ ID 15019; 2537pp + CD ROM; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2001-318749/34.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (HELI-) HELIX RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Isogai T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sugiyama
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nishikawa T,
T, Wakamatsu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hayashi K, Sa
Nagai K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Saito K,
K, Otsuki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Yamamoto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            detection by the
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Sequence 3263 BP; 829 A; 820 C; 888 G; 726 T; 0 other;

the present invention.

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Matches 1013; Conservative
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                                                                                                                                                             1385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1085 CCACCAAGGGACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCG 1144
                                                1445 CAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGGACATGTATGCTTG
                                                                                                                                                                                                                 830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                y Match 7.0%;
Local Similarity 50.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCGGGACCTCTACCTGCTCATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGC 1204
                                                                                                                                                                                                                                                                                                                              TĊŢĠĠĄĄĊŢĊĄŢŢĠĄĊĊĠĊŢĄŢĠĄĄĊĊŢŢĊĄĠĄĊĄGŢĠĠĊĄĄĄĊŢĠĊĠĠĊĄŢĠŢĠĊŢĠĄĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCAGTCTGGAACCCTGGAAGGAAGAATTCGTACAGTTCTATAAGGCATTGACTAAACG 649
                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGCCTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGACCCTTCGAGAGCTG 1264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGCTGAGGTGCAGGAACTGTTTGAAAGTTTTTTCAGCTGATGGGCAGAAGCTGACTCTGCT
                                                                                                                                                       CCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCA 1444
                                                                                                                                                                                                                    TATGGATGGCTTCCTCAGCTACCTCTGCTCTAAGGATGGAGACACCTTCAACCCAGCCTG
                                                                                                                                                                                                                                                                  CATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCA 1384
                                                                                                                                                                                                                                                                                                                                                                              CCAGGACATCATCGAGCAGTTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGG
TAACACCTACCTAGTGGGGGACCAGCTTTGCGGCCAGAGCAGCGTCGAGGGATATATACG 1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 323.4; DB 22;
Pred. No. 1.3e-51;
0; Mismatches 916;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               916; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               70;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     for identifying polymorphisms, determining the genomic structure of a given locus/allele and designing diagnostic tests. The microarray comprising NHP cDNA is useful for screening collections of genetic material from patients having a particular medical condition, which is used to identify mutations associated with a particular disease and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              and prepare cloning and sequencing templates, and alternatively as hybridisation probes for screening libraries and assessing gene expression patterns. They are used in the identification, selection and validation of novel molecular targets for drug discovery, where identification and characterisation of human genomic clones is helpful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present sequence is a cDNA encoding novel human protein (NHP), phospholipase protein. Phospholipases hydrolyse phospholipids and play a key role in the cell activation and signal transduction. NHPs share structural similarity with animal phospholipases, including phospholipase C delta-4. NHP oligonucleotides are useful in conjunction with polymerase chain reaction (PCR) to screen libraries, isolate clones,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New polynucleotides encoding human phospholipase protein involved in cell activation and signal transduction, useful for drug screening, diagnosis and in gene therapy of biological disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 2289
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CAGGAGCAGAACCTTCAGAATAAGGACAAAAAAGAAGAAATCCAAGCCCATCTT
                              ACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTGGATTCCCTCAT 1996
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                                                                                            GATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATGGGGATGCATCC
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RESULT 12
AAD23721
AAD23721 standard; DNA; 2289
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arteriosclerosis; epilepsy; depression; neurodegenerative disease; stroke; rheumatoid arthritis; immune disorder; chromosome localisation; angina pectoris; percutane transluminal coronary angiography; Pthrombo embolic insult; disseminated intravascular coagulation; Homo sapiens vaccine; gene therapy; phospholipid C delta 5; PLCD5 protein; deep vein thrombosis; gp

Human phospholipase C delta 5

(PLCD5) DNA #1.

07-MAR-2002

(first entry)

Location/Qualifiers

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New phospholipase C delta 5 polypeptides, useful for treating deep vein thrombosis, instable angina pectoris, percutane transluminal coronary angiography, disseminated intravascular coagulation and epilepsy -
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 4; Page 34-37; 51pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          chromosome localisation studies, as valuable tools
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Brandt S,
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ATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTG 1223
                                   GGAGAAGAATTCGTACAGTTCTATAAGGCATTGACTAAAACGTGCTGAGGTGCAGGAACTG
                                                                                                                                                                                                                                                                           CGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGGATGGC 983
                                                                                                                                                                                                                                                                                                                                               ACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGACGACAGCCTGGCTCGCCGCCAG 923
                                                                    TTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCTGCTC 116:
                                                                                                      GAATATGCCTTCAGTCTTTTTCAGGCAGCAGACACG---TCCCAGTCTGGAACCCTGGAA
                                                                                                                                      CAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCTGGGT 110:
                                                                                                                                                                        AGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTCAACGTGAACCTGCCCCGG 1043
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PLCD5 protein.
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                                        ACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTGGATTCCCTCAT 1996
                                                                                CCTGAGTTGGAAGAGTCAGAATTGGCGCTGGAGTCCCAGTTTGAGACTGAGCCTGAGCCC
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ABK10063 standard; cDNA; 2629

21-MAY-2002 (first entry)

Human phospholipase C 16816 cDNA.

ABK10063
ID ABK
XX
AC ABK
XX
DT 21-1
DX Hum
XX
KW Hum
XX
KW Gli.
KW Gli.
KW Jisci
KW Vass
KW Vass
KW Chr Human; phospholipase C; PLC; phospholipase C 16816; brain disorder; ge cellular proliferative disorder; differentiative disorder; prion disea glial disorder; cerebrovascular disease; acute meningitis; cirrhosis; demyelinating disease; degenerative disease; heart disorder; rickets; ischaemic heart disease; myocardial disease; neoplastic heart disease; vascular disease; inflammatory disease; bone metabolism disorder; chronic renal disease; haematopoietic disorder; autoimmune disease; er; gene; disease; ss;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ischaemia and hypertensive encephalopathy), infections (e.g. acute meningitis and prion diseases), demyelinating diseases (e.g. multiple sclerosis), degenerative diseases (e.g. Alzheimer's disease), heart disease; heart failure, ischaemic heart disease (e.g. myocardial infarction), myocardial disease (e.g. myocarditis), neoplastic myocardial infarction), myocardial disease (e.g. myocarditis), neoplastic ment disease (e.g. angina pectoris), vascular diseases (e.g. hone metabolism disorders (e.g. osteoporosis), cirrhosis, rickets, chronic renal disease, hematopoletic disorders, autoimmune diseases (e.g. cronic disease, psoriasis, Crohn's disease, uveitis, atopic allergy, and pathology of therapeutic interventions in vascular disease (e.g. balloon apathology of therapeutic interventions in vascular disease (e.g. balloon apathology of therapeutic interventions in vascular disease (e.g. balloon apathology of therapeutic interventions in vascular disease (e.g. balloon apathology of therapeutic interventions in vascular disease (e.g. balloon apathology of the pathology of the patholog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New human phospholipase C protein for diagnosing and treating disorders e.g. Alzheimer's disease, heart failure, cancer, psoriasis, Sjogren's disease, and to identify modulators for therapeutic use
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    and 16839. The polypeptides can be used in the treatment and diagnosis of various disorders including cellular proliferative and/or differentiative disorders (e.g. carcinoma and leukaemia), brain disorders including glial disorders (e.g. cerebral oedema), cerebrovascular diseases (e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to human phospholipase C (PLC) polypeptides 16816
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              angioplasty and related techniques) and vascular replacement (e. coronary artery bypass graft surgery). This sequence represents encoding the human phospholipase C 16816.
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CGAGGGCTCCAGCTGTTGGTGGATCTTGTCACCAGCATGGACCATCAGGAGCGCCT----
                                                      ACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGACGACAGCCTGGCTCGCCGCCAG 923
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/transl_except= (pos:1981..1983, aa:Gly)
/note= "This region is specifically claimed"
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54.2%;
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Pred. No. 7.5e-49;
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                                                                                                    GATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATGGGGATGCATCC
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ID AA-
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Matches
                                         Query Match
                                                                                                                       comprising NHP cDNA is useful for screening collections of genetic material from patients having a particular medical condition, which is used to identify mutations associated with a particular disease and also as diagnostic or prognostic assay. NHP nucleotide sequences are useful for drug screening. Nucleotide construct encoding NHP products are used in gene therapy for modulating NHP expression and to produce genetically engineered host cells to express NHP products in vivo. The NHP sequences are useful for generating antibodies, as reagents in diagnostic assays, for identifying other cellular gene products related to NHP and as reagents in assays for screening for compounds that are useful in the treatment of mental, biological or medical disorders and diseases. They can be used to therapeutically augment the efficacy of themotherapeutic agents used in the treatment of breast or prostate
                                                                                                                                                                                                                                                                                                                                                                         and prepare cloning and sequencing templates, and alternatively as hybridisation probes for screening libraries and assessing gene expression patterns. They are used in the identification, selection and validation of novel molecular targets for drug discovery, where identification and characterisation of human genomic clones is helpful for identifying polymorphisms, determining the genomic structure of a given locus/allele and designing diagnostic tests. The microarray
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present sequence is a cDNA encoding novel human protein (NHP), phospholipase protein. Phospholipases hydrolyse phospholipids and play a key role in the cell activation and signal transduction. NHPs share structural similarity with animal phospholipases, including phospholipase C delta-4. NHP oligonucleotides are useful in conjunction with polymerase chain reaction (PCR) to screen libraries, isolate clones,
                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page 44-45; 45pp; English.
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15-MAR-2000; 2000US-0189693
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The invention relates to polynucleotides encoding proteins CG12, CG17 CG95, CG121, CG162, CG27, CG153 and CG168 which are related to protein involved in lipid metabolism and cardiovascullar disease such as human apolipoproteins, lipases and lipoprotein receptor proteins. These DNA and protein sequences are useful for treating or preventing disorders associated with apolipoproteins, lipases and lipoprotein receptor (ALL expression and for treating lipid metabolism, cardiovascular diseases
                                                                                                                                                                                                                                                                                                  Nucleic acids encoding human apolipoproteins, lipases, and lipoprotein receptor polypeptides, useful for preventing diagnosing and treating lipid metabolism disorders, thrombosis and cardiovascular diseases -
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                                                                                                                                                                                                                                          Claim 1; Page 155-158; 266pp; English
                                                                                                                                                                                                                                                                                               receptor polypeptides, lipid metabolism dieco
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/note= "CDS does not include stop codon"
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QA, Wehrman T,
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and thrombosis. Antibodies against these proteins are useful for determining the presence of or predisposition to a disease associated with altered levels of these sequences. ALT polypeptides are also useful for identifying agents (agonists and antagonists) that bind to them and cells expressing ALT proteins are useful for identifying a therapeutic agent for use in treatment of a pathology related to aberrant expression or physiological interactions of this polypeptide. Vectors comprising these DNA and protein sequences are also useful for producing ALT proteins. The nucleic acids and polypeptides of the invention are also useful for the treatment of occlusive cardiovascular
                                                                                diseases, myocardial infarction, cerebral ischaemia, angina, arterial thrombosis, coronary artery thrombosis and cerebral artery thrombosis or intracardiac thrombosis and stroke. The nucleotides of the inventic are used in gene therapy. The present sequence is human CG121 (or C59)
                                                             DNA.
                                                                                            CG121 (or C592)
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Query Match Local Similarity Conservative 54.18; --- 0; 6.6%; Score 307; DB Pred. No. 1.4e-0; Mismatches DB 22; .4e-48 560; Indels Length 1840; 15; Gaps

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Sequence 1840 BP; 455 A; 483 C; 508 G;

394 T; 0

other;

S 밁 Ş 밁 Ş 428 804 744 TTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGCTTCAGCATCTACCACGGC ACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGAGGACAGCCTGGCTCGCCGCCAG GGCCGCCGCTCCAACCTGGACCTGATGGCCAACAGTGTTGAGGAGGCCCAGATATGGATG TTGCTGCGTAGCCTGGCAGAGGAGCTCCCCCTGGAGCAGGGCTTCACCATTGTCTTCCAT

밁 S 밁 S 뫄 596 984 544 924 488 CGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGATGGC CGAGGGCTCCAGCTGTTGGTGGATCTTGTCACCAGCATGGACCATCAGGAGCGCCT----AGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTCAACGTGAACCTGCCCCGG -----GGACCAATGGCTGAGCGATTGGTTTCAACGTGGAGACAAAAATCAGGATGGT 543

1164 ATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTG 1223

GGAGAAGAATTCGTACAGTTCTATAAGGCATTGACTAAACGTGCTGAGGTGCAGGAACTG

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1224 CAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAG TTTGAAAGTTTTTCAGCTGATGGGCAGAAGCTGACTCTGCTGGAATTTTTGGATTTCCTC 1283 832

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문 Ś 1344 TACACCAGGAGCCCTGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGAC 1012

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Ş В 8 Ś 밁 8 뮹 Ś Ş 뭥 Ś 밁 Ś Search completed: March 28, 2003, 16:33:51 Job time : 1148 secs 밁 S 皮 1944 ACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTGGATTCCCTCAT 1996 1373 TTGGATGGGGTGCTGCCCACTCAGCTGCCCTCGCCTGAGGAGCTTCGGAGGAAGATCCTG 1432 1313 1193 CACACCCTGACCTCCCGCATCCTGTTCAAAGATGTCGTGGCCACAGTAGCACAGTATGCC 1252 1584 TACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAATATGCC 1643 1524 CGCTGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGC 1583 1553 CAGGAGCAGAACCTTCAGAATAAGGACAAAAAAGAAGAAATCCAAGCCCATCTT 1605 1764 GTGAGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTC 1823 1704 CAGAAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGGACAGCTGGACCTGTCATCA 1763 1644 TICATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAG 1703 1493 CCTGAGTTGGAAGAGTCAGAATTGGCGCTGGAGTCCCAGTTTGAGACTGAGCCTGAGCCC 1552 1884 GATGAGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAATGGGGATGCATCC 1943 1433 GTGAAGGGGAAGAAGTTAACACTTGAGGAAGACCTGGAATATGAGGAAGAAGAAGCAGAA 1492 1824 GTGAAGGGGAAGAACCTCCCCAGCCAACATCAGCGAGGATGCCGAGGAAGGCGAAGGTGTCT 1883 CAGCAGACCATGGCCCGTCATCTGACTGAGATCCTGGGGGAGCAGCTGCTGAGCACCACC 1372

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OM nucleic - nucleic search, using sw model
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Copyright (c) 1993 - 2003 Compugen Ltd.
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

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## ALIGNMENTS

FEATURES SOUICE	TITLE JOURNAL COMMENT	SOURCE ORGANISM REFERENCE AUTHORS	RESULT 1 BQ946757 LOCUS DEFINITION ACCESSION VERSION KEYWORDS
	National Institutes of Health, Mammalian Gene Collection (MGC) Unpublished (1999) Contact: Robert Strausberg, Ph.D. Email: cgapbs r@mail.nih.gov Tissue Procurement: The Cepko Laboratory	house mouse. Mus musculus Mus musculus Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 889) NIH-MGC http://mgc.nci.nih.gov/.	BQ946757 8924326 NIH_MGC_94 Mus musculus cDNA clone IMAGE:6466785 5', mRNA Sequence. BQ946757 BQ946757.1 GI:22362235 EST.

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                                                    AGAAGCCAAGTCGCAAGGGCTTCCCAGAGCTGGCCCTGGGCACACAGGACGCAAGGCTCC 780
                                                                                                        AGAAGCCGGGCCGCAGGGGCTTCCCGGAGCTGGTCCTGGGTACACGGGACACAGGCTCCA 329;
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/clone_lib="NIH_MGC_94"
/tissue_type="retina"
/lab_host="DH10B (phage-resistant)"
/note="Organ: eye; Vector: pCMV-SPORT6; Site_1: Not1;
Site_2: Sall; Cloned unidirectionally; oligo-dT primed.
Average insert size_3.3 kb. Library enriched for
full-length clones and constructed by Life Technologies.
Note: this is a NIH_MGC Library."
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/db_xref="taxon:10090"
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Pred. No. 1.8e-117;
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-CCCCCGGGCCCGGACCTGCTCCGGAAGCCCC 3346
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  CCAAGTCTGTGGGGACCCATGACGTGGAGATAGAGGTGGTATCTAGCTGGCAGGTGTCGT
                                                                                                           CGACCCGGCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCTCTGACCTGGTGAAGTACA 2319
                                    CCAAGTCCGTGGCCACCCACGACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGT
                                                                               CTGCCCGGCAAAAGAAGACCATGAAGCTGTCACGAGCCCTCTCGGACCTAGTGAAATATA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Email: cgapbs-r@mail.nih.gov
Tissue Procurement: The Cepko Laboratory
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National Institutes of Health, Mammalian Gene Collection (MGC)
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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/note="Organ: eye; Vector: pcMV-SPORT6; Site_1: Not1;
Site_2: Sall; cloned unidirectionally; oligo-dT primed.
Average insert size 3.3 kb. Library enriched for full-length clones and constructed by Life Technologies.
Note: this is a NIH MCC Library."
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/tissue_type="retina"
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/db_xref="taxon:10090"
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 759)
                                                                                                                                                                                                                                                                                                                                                            Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov
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National Institutes of Health, 1
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                                                                                                                                                                                   quality sequence stop: 683.
Location/Qualifiers
/organism="Homo sapiens"
/db xref="taxon:9606"
/clone="IMAGE:4645721"
/clone lib="NIH_MGC_16"
/tissue_type="retinoblastoma"
/tissue_type="retinoblastoma"
/lab_host="DH10B (phage-resistant)"
/note="Organ: eye; Vector: pOTB7; Site_1: xhoI; Site_2:
ECORI; cDNA made by oligo-dT priming. Directionally
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                           Contact: Robert Strausberg, Ph.D
                                          Unpublished (1999)
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                                                                                                                           CCTCGTGAAGGGGAAGAAGCTCCCAGCC-AACATCAGCGAGGATGCGGAGG-AAGGCGAG
                                                                                                                                                                                        ATCAGTGAGCAGTGAAGATGCCAGCACACTCCCCTCTCCACAGATGCTCAAGGGCAAGAT
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                                                                                       CCTCGTGAAGGGGAAGAAGCTCCCAGCCAAACATCAGCGAGGATGCGGAGGAAAGGCGAG
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/tissue_type="retinoblastoma"
/lab_hoSt="DH10B (phage-resistant)"
/lab_hoSt="DH10B (phage-resistant)"
/note="Organ: eye; Vector: pOTB7; Site 1: XhoI; Site 2:
/note="Organ: eye; Vector: pOTB7; Site 1: XhoI; Site 2:
/note="Organ: eye; Vector: poTB7; Site 1: XhoI; Site 2:
/note="Organ: eye; Vector: poTB7; Site 1: XhoI; Site 2:
/note="Organ: eye; Vector: poTB7; Site 1: XhoI; Site 2:
/note="Organ: eye; Vector: poTB7; Site 1: XhoI; Site 2:
/note="Organ: eye; Vector: poTB7; Site 1: XhoI; Site 2:
/note: this is a NIH MGC Library."
/note: this is a NIH MGC Library."
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/clone="IMAGE:4579663"
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                                                                                                                                                                                                                                                                                                                                   CGAGCCAAGTTCA-GCGCCAACGGTGGCTGCGGCTACGTACTCAAGCCTGGGTGCATGTG 2641
GCAGCAGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCACCTGGGAGGAGA
                                  GCAGCAGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCACCTGGGAGGAGA
                                                                                                             ACCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGTGGACT
                                                                                                                                                   GGTGCTCCGGATCATCAGTGGCCAGCATGCTTCCCAAGCCGCGACTCCATGCTGGGGG
                                                                                                                                                                                          GGTGCTCCGGATCATCAGTGGCCAGCA-GCTTCCCAAGCCGCGCGACTCCATGCTGGGGG 2760
                                                                                                                                                                                                                                                                      CCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAAGCAGCT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       found through the I.M.A.G.E. Consortium/LLNL http://image.llnl.gov Plate: LLAM10858 row: f column: 09
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1 (bases 1 to 663)

NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: cgapbs-r@mail.nih.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /lab_host="DH10B (T1 phage-resistant)"
/note="Organ: brain; Vector: pCMV-SPORT6; Site 1:
Site_2: Sall; Cloned unidirectionally. Primer: Ol
Average insert size 2.3 kb. Constructed by Life
Technologies. Note: this is a NCI_CGAP Library."
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GTGGACTGCAGCA-GGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCCACCTGG
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National Institutes of Health, Mammalian
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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601115717F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:3356069 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
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                                                                                                                                      Conservative
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/clone_lib="NIH_MGC_16"
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                                                                                                                                                               Score 550; DB 10;
Pred. No. 2.3e-98;
                                                                                                                                      Mismatches
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
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                                                                                                                                                                                                                                                                                                      Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
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                                                                                                                                                                                                          found through the I.M.A.G.E. Consortium/LLNL at: image.llnl
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                                                                                                                                                                quality sequence stop: 576.
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/db xref="taxon:9606"
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/clone_lib="NIH_MGC_16"
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/lab host="DH10B (phage-resistant)"
/note="Organ: eye; Vector: pOTB7; Site_1: XhoI; Site_2:
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RESULT 8
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                                                                                                                                                                                                                                                                        AATCGAAAGCGTGTAG---AAAACACTGCTAAGAGGAAACTGGATTCCCTCATCA 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAAGATGCCACC-ACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTCGTGA-AGG 1830
                                                                                                                                                                                                                                                                                                                                                AGGACAGTGCTGATGAGATTGACGATGACTGCAAGCTCCTCAAT-GGGGATGCATCCACC
                                                                                                                                                                                                                                                                                                                                                                                                  GCCCAGTATCTGAC-TGACATCCTTGGGGACAAGCTGGACCTGTCATCAGTGAGCA--GT 1772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGACTGCTGGGATGGGCCCGACGGGGAGCCCATTG-TGCACCATGGCTACACTCTGACTT 1596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGCTGGTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGACATGACGCAGCCGCT 1417
                                                                                                                                                                                                                                         AATCGCAAGCGGGTAGCACAACAACTGGCAACGACGAGACTGGGTTCCCCCATCA
                                                                                                                                                                                                                                                                                                                    AGGACTGTGCTGATGAGATTGACGATGACTGCGTGCTCCTCAATGGGGGGATGCATCCCCC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGTGTCATCCAG-CAGAAGAAAATG 1715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCAAGATCCTCTTCAAAGACGTCATTGAAACCATCAACAAATATGCCTTCATCAAGAATG 359
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                                                          BM903836.1 GI:19353598
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BM903836
                                                                                                                 EM903836 1002 bp
AGENCOURT_6695882 NIH_MGC_67 Homo
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Pred. No. 2.4e-91;
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e IMAGE:5492312
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                                            TGAACTACCCAGTCAAAGGGGCGGGATGCTTGCACCTGAACCGAAGCCCAGGTCCAGCGC
                                                                                TGAACTA-CCAGTCAGAGGGGCGG--ATGCTGCAGCTGAACCGA--GCCAAGTTCAGCGC 2599
                                                                                                                                                                     GGACTCCAGCAACTACAACCCGCAGCCCTTCTGGAACGCCGGCTGCCAAAT-GGTTGCCC
                                                                                                                                                                                                              GCAGTACCTACGCTTCAACCAGCAGCAGCTCTCCCGCATCTACCCCTCCTCCTACCGTGT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov Plate: LLAM12114 row: d column: 09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 1002)

NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
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Location/Qualifiers
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/tissue_type="retinoblastoma"
/lab_host="DH108 (phage-resistant)"
/note="Organ: eye; Vector: pCMV-SPORT6; Site_1: Not1;
Site_2: Sall; Cloned unidirectionally. Primer: Oligo
Average insert size 1.75 kb. Library constructed by
Technologies."
a 299 c 343 g 140 t
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/db_xref="taxon:9606"
/clone="IMAGE:5492312"
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Pred. No. 4.4e-84;
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                                                                                                                                                                                                                                         2689 TCAAGAAGCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGCGACT 2748
                                                                                                                                                                                                                                                                                                                     Local Similarity
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  TCCCCGTGGACTGCAGCAAGGAGCAGACCCGAGTGGTGGACGACAACGGATTCAACCCCA
                                   TCCCTGTGGACTGCAGGAGGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCA 2868
                                                                                                                                        CCATGCTGGGGGACCGTGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGC 2808
                                                                                                                                                                                              TCAAGAAGCAGNTGGCCGTGAGGATCATCAGTGGCCAGCAGCTGCCCAAACCACGAGACT 518
                                                                                                                                                                                                                                                                                         511;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 (bases 1 to 577)
Bonaldo, M.F., Lenno
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Seq primer: M13 REVERSE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: mEST@mail.nih.gov
Tissue Procurement: Dr. Xin-Yuan Fu, Yale University School
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Tel: 301 443 1706
Fax: 301 443 9890
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National Institute of Mental Health
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CDNA Library preparation: Dr. M. Bento Soares, Univeristy of Iowa CDNA Library Arrayed by: Dr. M. Bento Soares, Univeristy of Iowa DNA Sequencing by: Dr. M. Bento Soares, Univeristy of Iowa Clone Distribution: Researchers may obtain clones from Research
                                                                                                                                                                                                                                                                                                                                                                                                                107
                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="Vector: pT7T3D-Pac (Pharmacia) with a modified polylinker; Site 1: Not I; Site 2: Eco RI; The NIH BWAP Ret4 S2 library is a subtracted library, ultimateTy derived from mouse retina tissue libraries at various stages of development. For a detailed description of the library from which this clone was derived, please visit our web site at brainest eng.uiowa.edu. The tissue visit our web site at brainest eng.uiowa.edu.
                                                                                                                                                                                                                                                                                                                                                                                                                for this library was contributed by Dr. Xin-Yuan Fu, Yale
University School of Medicine"
176 c 167 g 126 t 1 others
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/clone="UI-M-CG0p-bnl-h-03-0-UI"
/clone_lib="NIH_BMAP_Ret4_S2"
/lab_host="DH10B_(Life_Technologies)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /strain="C57BL/6J"
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UI-M-EH0p-but-n-17-0-UI.r1 NIH_E
IMAGE:5686864 5', mRNA sequence.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Email: cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Contact: Robert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mammalia; Eutheria;
1 (bases 1 to 733)
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Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
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/clone_lib="NIH_BMAP_EHOp"
/tissue_type="whole brain"
/dev_stage="embryo 18.5 dpc"
/lab_host="DH10B (T1 phage resistant)"
/note="Organ: brain; Vector: pYX-Asc; Site_1: EcoR I;
/note="Organ: brain; Vector: pX-Asc; 
                                                                                                                                                                                                                                                                                                                                                                   /db_xref="taxon:10090"
/clone="IMAGE:5686864"
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/strain="C57BL/6"
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CDNA was size selected according to mRNA size fraction, ligated with EcoR I adaptor, digested with Not I, and then cloned directionally into pYX-Asc vector. The library tag sequence located between the Not I site and the polyA tail, is CAGCCACGAC. This library was created for the

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251 c 239 g 89 t 1 others
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Pred. No. 1.5e-81;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Computer-based methods for the mouse full-length cDNA encyclopedia: real-time sequence clustering for construction of a nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001) Yamanaka, I., Kiyosawa, H., Kondo, S., Saito, T., Shinagawa, A., Aizawa, K., Fukuda, S., Hara, A., Itoh, M., Kawai, J., Shibata, K., Arakawa, T., Ishii, Y. and Hayashizaki, Y.

Mapping of 19032 mouse cDNAs on mouse chromosomes. J. Struct. Punc. Genomics 2 pre, L72-L86 (2001)
Please visit our web site (http://genome.gsc.riken.go.jp/) for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Email: genome-res@gsc.riken.go.jp,
URL:http://genome.gsc.riken.go.jp,
Carninci, P., Shibata,Y., Hayatsu,N., Sugahara,Y., Shibata,K., It
Carninci, P., Shibata,Y., Muramatsu,M. and Hayashizaki,Y.
Normalization and subtraction of cap-trapper-selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new
genes. Genome Res. . 10 (10), 1617-1630 (2000)
genes. Genome Res. . 10 (10), 1617-1630 (2000)
wagi,K., Fujiwake,S., Inoue,K., Togawa,Y., Tanaka,T., Matsuu
%S., Kawai,J., Okazaki,Y., Muramatsu,M., Inoue,Y., Kira,A. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken contributed to
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         prepare mouse tissues
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Tel: 81-45-503-9222
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The Institute of Physical and Chemical Research (RIKEN)
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Unpublished (2001)
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Arakawa, T., Carnino
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BB430723
BB430723.2 GI:15412030
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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                           /note="Site_1: XhoI; Site_2: BamHI; cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken
Genomic Sciences Center and Genome Science Laboratory in
                                                                                                                                                  /tissue_type="hippocampus"
/dev_stage="adult"
/lab_host="SOLR"
                                                                                                                                                                                                                                                                                                                                                                       /strain="C57BL/6J"
/db_xref="taxon:10090"
/clone="C630034J05"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                    /clone_lib="RIKEN full-length enriched, adult male
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BASE COUNT
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BG299246
BG299246.1 GI:13064707
EST.
                                                            602395735F1 NIH_MGC_94 Mus musculus cDNA clone IMAGE:4507377
                                                  mRNA sequence.
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Pred. No. 5.7e-81;
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                                                                         CAAGITCAGCGCCAACGGTGACTGTGGCTACGTGCTCAAACCCCCAGTGCATGTGCCAGGG
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NIH-MGC http://mgc.nci.nih.gov/.

National Institutes of Health, Mammalian Gene Collection (MGC)
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Tissue Procurement: The Cepko Laboratory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished (1999)
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/clone lib="NIH MGC 94".
/tissue_type="retina"
/lab host="DH10B (phage-resistant)"
/note="Organ: eye; Vector: pCMV-SPORT6; Site 1: Not1;
/note="Organ: eye; Vector: pCMV-SPORT6; Site 1: Not1;
Site 2: Sall; Cloned unidirectionally; oligo-dT primed.
Average insert size 3.3 kb. Library enriched for
full-length clones and constructed by Life Technologies.
Note: this is a NIH MGC Library."
a 204 c 211 g 116 t 1 others
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sciences Center(GSC), Yokohama Institute
The Institute of Physical and Chemical Research (RIKEN)
1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230
Tel: 81-45-503-9212
Fax: 81-45-503-9216
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Arakawa, T., Carninci, P., Fukuda, S., Furuno, M., Hanagaki, T., Hara, A., Hiramoto, K., Hori, F., Ishi, Y., Ito, M., Kawai, J., Konno, H., Kouda, M., Koya, S., Matsuyama, T., Miyazaki, A., Nomura, K., Ohno, M., Okazaki, Y., Okido, T., Saito, R., Sakai, C., Sakai, K., Sano, H., Sasaki, D., Shibata, K., Shinagawa, A., Shiraki, T., Sogabe, Y., Suzuki, H., Tagami, M., Tagawa, A., Takahashi, F., Takeda, Y., Tanaka, T., Toya, T., Muramatsu, M., and Hayashizaki, Y., Direki, Mayashizaki, Y., Dir
                                                                                                                                                Computational Analysis of Full-Length Mouse cDNAs Compared with Human Genome Sequences. Mamm. Genome. 12, 673-677 (2001)
                                                                                                                                                                                                                                                                  encyclopedia: real-time sequence clustering for construction of a nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001) Kondo, S., Shinagawa, A., Saito, T., Kiyosawa, H., Yamanaka, I., Aizav, K., Fukuda, S., Hara, A., Itoh, M., Kawai, J., Shibata, K. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sequencing pipeline with 384 multicapillary sequencer. Genome Res. 10 (11), 1757-1771 (2000) Komno, H., Fukunishi, Y., Shibata, K., Itoh, M., Carninci, P., Sugahara
                                 further details.
e mouse tissues
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                                                                                                     Please visit our web site (http://genome.gsc.riken.go.jp) for
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Location/Qualifiers
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Project of Genome Exploration Research Group in Riken
Genomic Sciences Center and Genome Science Laboratory
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                                                                                                                 GTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCTGCTCATGCTGAC 1171
                                                                                                                                                                          GAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCTGGGTTTTGAAGA 246
                                                                                                                                                                                                     GAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCTGGGTTTTTGAAGA 1111
                                                                                                                                                                                                                                                              CATTGGCGAGGTCCTGCAGCTGCACAAGCTCAACGTGAACCTGCCCCGGCAGAGGGT 186
                                                                                                                                                                                                                                                                                          CATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTCAACGTGAACCTGCCCCGGCAGAGGGT 1051
                                                                                                                                                                                                                                                                                                                                                GACCAAGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGGATGGCAGCCTGAG 126
                                                                                                                                                                                                                                                                                                                                                                                            GACC-AGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGGATGGCAGCCTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCTACCTCATGGGCGCATCAGCGACGAGGACAGCCTGGCTCGCCGCCAGCGCACCAGG 66
                                           CTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCAGGTGGA 1231
                                                                                    GTTCTGTGCCTTCTACAAGATGATGTCCACCCGCGGGACCTCTACCTGCTCATGCTGAC
  CTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTGCAGGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             428;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 (bases 1 to 436)
NIH-MCC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         601503091F1 NIH_MGC_70 Homo sapiens cDNA clone IMAGE:3904894 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tissue Procurement: ATCC
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/clone="IMAGE:3904894"
/clone="IMAGE:3904894"
/clone="IMAGE:3904894"
/tissue type="epithelioid carcinoma"
/lab_host="DH10B (phage-resistant)"
/note="Organ: pancreas; Vector: pCMV-SPORT6; Site_1: NotI;
Site_2: Sall; Cloned unidirectionally. Primer: Oligo dT.
Average insert size 1.1 kb. Library constructed by Life Technologies."
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REFERENCE
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Arakawa, T., Carninci, P., Fukuda, S., Furuno, M., Hanagaki, T., Hara, A., Hiramoto, K., Hori, F., Ishii, Y., Ito, M., Kawai, J., Konno, H., Kouda, M., Koya, S., Matsuyama, T., Miyazaki, A., Nomura, K., Ohno, M., Koya, S., Okido, T., Saito, R., Sakai, C., Sakai, K., Sano, H., Sasaki, D., Shibagaka, A., Shiragaki, T., Sogabe, Y., Suzuki, H., Tagama, M., Tagawa, A., Takahashi, F., Takeda, Y., Tanaka, T., Toya, T., Muramatsu, M. and Hayashizaki, Y. Muramatsu, M. and Hayashizaki, Y. RIKEN Mouse ESTS (Arakawa, T., et al. 2001)
Unpublished (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Email: genome-res@gsc.riken.go.jp,

URL:http://genome.gsc.riken.go.jp/
Carninci,P., Shibata,Y., Hayatsu,N., Sugahara,Y., Shibata,K., Itoh
,M., Konno,H., Okazaki,Y., Muramatsu,M. and Hayashizaki,Y.

Normalization and subtraction of cap-trapper-selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new
genes. Genome Res. 10 (10), 1617-1630 (2000)

wagi,K., Fujiwake,S., Inoue,K., Togawa,Y., Izawa,M., Ohara,E.,
watahiki,M., Yoneda,Y., Ishikawa,T., Ozawa,K., Tanaka,T., Matsuura
,S., Kawai,J., Okazaki,Y., Muramatsu,M., Inoue,Y., Kira,A. and
Hayashirativ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tel: 81-45-503-9222
Fax: 81-45-503-9216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center(GSC), Yokohama Institute
The Institute of Physical and Chemical Research (RIKEN)
1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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                                                                                                                                                                                                                                                                                                                                                                                       encyclopedia: real-time sequence clustering for construction of a nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001)
Yamanaka,I., Kiyosawa,H., Kondo,S., Saito,T., Shinagawa,A., Alzawa,K., Fukuda,S., Hara,A., Itoh,M., Kawai,J., Shibata,K., Arakawa,T., Ishii,Y. and Hayashizaki,Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Contact: Yoshihide Hayashizaki
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sequencing pipeline with 384 multicapillary sequencer. Genome Res. 10 (11), 1757-1771 (2000)

Konno,H., Fukunishi,Y., Shibata,K., Itoh,M., Carninci,P., Sugahara,Y. and Hayashizaki,Y.
                                                                                                                                                                                                                                                                                                                                Mapping of 19032 mouse cDNAs on mouse chromosomes. J. Struct. Func. Genomics 2 pre, L72-L86 (2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hayashizaki,Y.
                                                                                                                                                                                                                                                                  further details
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Computer-based methods for the mouse full-length cDNA
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                                                                                                                                                                                                                                                                                                    Please visit our web
                                  /db_xref="taxon:10090"
/clone="C630034J05"
                                                                                                                                  /organism="Mus musculus"
                                                                                                                                                                                                    Location/Qualifiers
/clone_lib="RIKEN full-length enriched,
                                                                                            strain="C57BL/6J"
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                                                                                                                                                                                                                                                                                                    site (http://genome.gsc.riken.go.jp) for
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BASE COUNT
Search completed: March 28, Job time : 6869 secs
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Best Local Sim
Matches 446;
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                                                                                                         ACGTGAACCTGCCCCGGCAGAGGGTGAAGCAGAT 1060
                                                                                                                                                                                                                                                              GCCTGGCTCGCCGCCAGCGCACCAGGGACCAGTGGCTGAAGCAGAGCTTTGACGAGGCCG 966
                                                                                                                                                         ACAAAAAC-GGGACGGGAGCCTGAGCATCAGGGAGGGTCTGGAGCTGCTACATAAACTCA
                                                                                                                                                                                      ACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTCA 1026
                                                                                                                                                                                                                                     GCCTAGCCCGTCGCCAGCGTACCAGGGACCAGTGGCTGAAGCACGTTTGATGAGGCTG
                                                                                                                                                                                                                                                                                                                                                       TGGCGCGCACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGACGACA 906
                                                                                                                                                                                                                                                                                                                                                                                                                       TCAGCATCTACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAGG 846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGCGGCAGTCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCCAACTGCTGCT 786
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                                                                              ACGGGAACCTGCCCGGGCGAGGGGAAACAAAGGT 703
                                                                                                                                                                                                                                                                                                                GCCGGCAGTCTGAAATCTTCCAGCGCTACCCGGACAGCTTTGACCCCAACTGCTGCT 430
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                                                                                                                                                                                                                                                                                                                                                                                              TCAGCATCTACCATGGCAGCCACAGAGAGTCGCTGGACTTGGTCTCACCCAGCAGTGAAG 490
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      contributed to prepare mouse tissues. 1st strand cDNA was primed with a primer [5' GAGAGAGAGAGGCTCAGAGCTCTTTTTTTTTTTTTTTTVN 3'], cDNA was
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="Site 1: XhoI; Site 2: BamHI; cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /tissue_type="hippocampus"
/dev_stage="adult"
/lab_host="SOLR"
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/sex="male"
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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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  Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
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| Compared_f/ptodata/1/ina/5A_COMB.seq:*
| Cgn2_6/ptodata/1/ina/5B_COMB.seq:*
| Cgn2_6/ptodata/1/ina/6A_COMB.seq:*
| Cgn2_6/ptodata/1/ina/6B_COMB.seq:*
| Cgn2_6/ptodata/1/ina/backfiles1.seq:*
| Cgn2_6/ptodata/1/ina/backfiles1.seq:*
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                                                                                                                                                                                                                                                                                                              Length DB
3870
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US-08-138-133-1
US-08-138-641-3
US-08-138-641-3
US-08-138-641-3
US-08-138-641-3
US-08-23-463-1
US-08-440-856A-9
US-09-130-114-6
US-09-130-114-6
US-08-459-448A-6
US-08-459-595A-6
US-08-459-5948-6
US-09-20-528-68-1
US-09-20-528-68-1
US-09-211-6268-1
US-09-211-6268-1
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8460.993 Million cell updates/sec
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Sequence 14,
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Sequence 2, A
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ALIGNMENTS	US-08-440-856A-1	US-09-547-422-2	US-09-053-549-3	US-08-459-444-2	US-08-459-504B-2	US-08-459-595A-2	US-08-459-448A-2	US-07-951-715A-2	US-08-946-458-1	US-08-462-221-1	US-08-343-785-1	US-08-946-458-7	US-08-462-221-7	US-08-343-785-7	US-09-103-840A-2	US-08-232-463-14	US-09-547-422-4	US-09-053-549-5
	Sequence 1, Appli	Sequence 2, Appli	Sequence 3, Appli	Sequence 2, Appli	Sequence 1, Appli	Sequence 1, Appli	Sequence 1, Appli	Sequence 7, Appli	Sequence 7, Appli	Sequence 7, Appli	Sequence 2, Appli	Sequence 14, Appl	Sequence 4, Appli					

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US-08-138-641-1
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                                                                    Best Loc
Matches
                                                                                      Query Match 3.8%;
Best Local Similarity 62.7%;
                                                                                                                                                                                                                                                    TELEFAX: (908) 594-472
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Muthard, David A.
REGISTRATION NUMBER: 35,1
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Koblan, Kenneth S.
APPLICANT: Pompliano, David L.
TITLE OF INVENTION: ASSAY TO DETERMINE INHIBITORS OF
TITLE OF INVENTION: PHOSPHOINOSITIDE-SPECIFIC PHOSPHOLIPASE C-GAMMA
NUMBER OF SEQUENCES: 9
                        TELEPHONE: (908) 594-3903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
963 CATGAACAACCCACTGTCTCACTATTGGATCTCTTCCTCGCATAATACGTATCTGACTGG 1022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STATE: N
                                                                                                                                                                            TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER:
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                                                                                                                                                                                                                                     LENGTH: 3870 base pairs
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O. Box 2000, 126 I
                                                                                                                                                                                                                                                                                            594-4720
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                                                                      Score 176.4; DB 1;
Pred. No. 1.7e-27;
0; Mismatches 171;
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                                                                        Indels 3;
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US-08-138-133-1
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                                                                                                                                          INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
COMPUTER: PATEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                      MOLECULE TYPE:
                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 3870 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: KOBLAN, KENNETH S.
APPLICANT: MACLEOD, ANGUS M.
APPLICANT: MERCHANT, KEVIN J.
TITLE OF INVENTION: INHIBITORS OF PHOSPHOINOSITIDE-SPECIFIC
TITLE OF INVENTION: PHOSPHOLIPASE C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1380 GATTAAGCATAAGAAGCTGGCTGAGGGCAGTGCCTATGAGGAGGTG 1425
                                                                                                                                                                                                        NAME: MUTHARD, DAVID A.
REGISTRATION NUMBER: 35,297
REFERENCE/DOCKET NUMBER: 18
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
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CITY: R
                                        STRANDEDNESS: single TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                   CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                     FILING DATE:
                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE:
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RAHWAY
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                                                                                                                                                              : (908) 594-3903
(908) 594-4720
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DAVID A. MUTHARD
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Best Local Similarity
Matches 292; Conserv
                                      TELEFAX: (908) 594-4720 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                      CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Muthard, David A.
REGISTRATION NUMBER: 35,297
                       SEQUENCE CHARACTERISTICS:
                                                                                                 REFERENCE/DOCKET NUMBER: 18
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                CURRENT APPLICATION DATA: APPLICATION NUMBER: US
                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
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CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: POMPLIANO, DAVID L.
TITLE OF INVENTION: ASSAY TO DETERMINE INHIBITORS OF
TITLE OF INVENTION: PHOSPHOINOSITIDE-SPECIFIC PHOSPHOLIPASE C-GAMMA
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                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                TELEPHONE:
                                                                                                                                                                                                                              FILING DATE:
                                                                                                                                                                                                                                                                                                                                                     MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE:
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3893 base pairs
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                                                                                  (806)
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Pred. No. 1.7e-27;
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Best Local Similarity 62.7%;
Matches 292; Conservative
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                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Flopy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/138,133
                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID A. MUTHARD
                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: GIBBS, JACKSON B.
APPLICANT: KOBLAN, KENNETH S.
APPLICANT: MACLEOD, ANGUS M.
APPLICANT: MERCHANT, KEVIN J.
TITLE OF INVENTION: INHIBITORS OF PHOSPHOINOSITIDE-SPECIFIC
TITLE OF INVENTION: PHOSPHOLIPASE C
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                     ATTORNEY/AGENT INFORMATION:
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STRANDEDNESS: single
TOPOLOGY: linear
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                                    FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                              COUNTRY:
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                                                                                                                                                                                                                         07065
MUTHARD, DAVID A
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                                                          US-09-738-884-3
                                                                                                                                                                                                                                                                                                                                                                                    US-09-738-884-3
                                                                                                                                                                                                                                                                                                                              ; GENERAL INFORMATION:
                                                                        SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 3
SEQ IT: 13953
TYPE: DNA
ORGANISM: Human
                                                                                                                                                                                                                                                                                                                                            Sequence 3, Application US/09738884 Patent No. 6391606
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                  Query Match
                                                                                                                                                                  APPLICANT: GUEGLER, Karl et al
TITLE OF INVENTION: ISOLATED HUMAN PHOSPHOLIPASE PROTEINS,
TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING HUMAN
TITLE OF INVENTION: PROTEINS, AND USES THEREOF
FILE REFERENCE: CL000849
CURRENT FILING DATE: 2000-12-18
NUMBER OF SEQ ID NOS: 5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REGISTRATION NUMBER: 35, 297
REFERENCE/DOCKET NUMBER: TELECOMMUNICATION INFORMATION:
TELEPHONE: (908) 594-3903
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TYPE: nucleic acid
STRANDEDNESS: singl
TOPOLOGY: linear
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Local Similarity 62.7%;
les 292; Conservation
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1.7%;
74.6%;
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Score 77.2; DB 4;
Pred. No. 6.6e-07;
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                  Length 13953;
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Best Local Similarity

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                                                                                                                                           Query Match
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APPLICANT: DORNER
                                                                                                                                                                                                                                                                                                                       NEORMATION FOR SEQ ID NO:
2124 GCCAGCAGACGCAATGGCCGCCTCGTCGTGGGAAGCTTCTCCAGGCGCAAGAAGAAGGGC 2183
                                 6309
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IMMEDIATE SOURCE:
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOCTWARE: Patentin Release #1.0, Version
CURRENT APPLICATION DATA:
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APPLICANT: FALKNER, F. G.
TITLE OF INVENTION: RECOMBINANT FOWLPOX VIRUS
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                                                                    2064 GGAAAGCTCGGACGCAAGAGCAAGGCTGAAGAGGACGTGGAGTCTGGGGAGGATGCCGGG 2123
                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                      REGISTRATION NUMBER: 29,768
REFERENCE/DOCKET NUMBER: 30-
TBLECOMMUNICATION INFORMATION:
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ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                CLONE:
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                                                                                                    Similarity 3.6%; Pred. No. 0.0032; 14; Conservative 226; Mismatches 151; Indels
                                                                                                                                                                                                                                                                   nucleic acid
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1800 Diagonal Road, Suite 500
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                                                                                                                        1.3%; Score 59; DB 1; Length 7218; 3.6%; Pred. No. 0.0032;
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                                                                    Matches
                                                                                                  Query Match
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INFORMATION FOR SEQ ID NO:
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 887-1517
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COMPUTER READABLE FORM:
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TITLE OF INVENTION: MATERIALS AND METHODS FOR PRODUCING TITLE OF INVENTION: PLANTS WITH SINGLE-SEX FLOWERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
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                        652 CGCGGGGAGCATCRTCTCCGTCGCCAGCGTCGCSGSCGTGCTSGGCGGCCTCGGCCCGCA 711
                                                               Local Similarity les 147; Conserv
                                                                                                                                                                   TOPOLOGY:
                                                                                                                                                                                   STRANDEDNESS:
                                                                                                                                                                                                                                                                       TELEPHONE: (202) 887-0763
                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: FILING DATE: 15-MA
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SOFTWARE: PatentIn Release #1.0, Version #1.25
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                                                                                                                                                                                                                                                                                                                                                                       NAME:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: WASHINGTON
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                                                                  Conservative
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                                                               1.1%; Score 51.6; DB 1;
42.0%; Pred. No. 0.068;
ative 22; Mismatches 181;
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LENGTH: 1926
TYPE: DNA
ORGANISM: Epstein Barr Virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches 189;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: HOTICK, ROBERT
TITLE OF INVENTION: METHOD FOR MAINTENANCE AND SELECTION OF EPISOMES
FILE REFERENCE: 0867/00905
CURRENT APPLICATION NUMBER: US/09/249,585A
CURRENT FILING DATE: 199-02-11
NUMBER OF SEQ ID NOS: 18
SOFTWARE: PatentIn version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE:
NAME/KEY: misc_feature
LOCATION: (1)..(1926)
OTHER INFORMATION: template strand of EBNA-1 DNA
                                                                                                                                                                                                                                                                                                                                                                                 1916
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1856 CGAGGATGCGGAGGAAGGCGAGGTGTCTGATGAGGACAGTGCTGATGAGATTGACGATGA 1915
 2096 GGACGTGGAGTCTGGGGAGGATGCCGGGGCCAGCAGACGCAATGGCCGCCTCGTCGTGGG 2155
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                                                                         2156 ААБСТТСТССАББСБСААБААБААББССАБССАВСТБААББАББСББСББССАБСБТББАББА 2215
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                                                                                                                                                                                                                                                                     Conservative
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RESULT 10 US-07-951-715A-6

; Sequence 6, Application
; Patent No. 5625136
; GENERAL INFORMATION:
APPLICANT: Koziel,
APPLICANT: Desai, 1

Koziel,

Nalini M Michael G. Application US/07951715A

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RESULT 9
US-09-130-114-2/c
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US-09-130-114-2
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LENGTH: 1931
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Patent No. 5976807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 1.1%;
Best Local Similarity 44.9%;
Matches 189; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Horlick, Robert A.
APPLICANT: Damaj, Bassam B.
APPLICANT: Robbins, Alan K.
TITLE OF INVENTION: Eukaryotic Cells Stably Expressing TITLE OF INVENTION: From Multiple Transfected Episomes FILE REFERENCE: 0867/1D903US1
CURRENT APPLICATION NUMBER: US/09/130,114
CURRENT FILING DATE: 1998-08-06
NUMBER OF SEQ ID NOS: 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
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                                                                                                                                                                                          2276
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Best Local Similarity
                                                                                                                                                                                     Matches
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FILING DATE: 25-SEP-1992
CLASSIFICATION: 800
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/772,027
FILING DATE: 04-OCT-1991
ATTORNEY/AGENT INFORMATION:
NAME: Spruill, W. Murray
REGISTRATION NUMBER: 32,943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: (919)541-8689
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 3624 base pair
                                                                                                         2487 CTTCGAGTGGAACCCCGACCTGGACTGCAGCTGCCGCGACGGCGAGAAGTGCGCCCACCA 2546
                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: other nucleic acid | DESCRIPTION: /desc = "Synthetic DNA" | DESCRIPTICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE/DOCKET NUMBER: S-18805/A/CGC 1577/CIP
TELECOMMUNICATION INFORMATION:
TELEPHONE: (919)541-8615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30B
CURRENT APPLICATION DATA;
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APPLICANT:
APPLICANT:
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OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
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APPLICANT: Suttie, Janet L.
TITLE OF INVENTION: SYNTHETIC DNA SEQUENCE HAVING ENHANCED
TITLE OF INVENTION: INSECTICIDAL ACTIVITY IN MAIZE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
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8,63 CACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGAGGACAGCCTGGCTCGCCGCCA 922
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CITY: Ha
STATE: N
COUNTRY:
                                                                    43 CTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGCTTCAGCATCTACCACGG 802
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                                   CAGCCACCACTTCAGCCTGGACATCGACGTGGGCTGCACCGACCTGCACGAGAACCTGGG 2606
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Dawson, John L.
Dunder, Erik M.
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Evola, Stephen V.
Crossland, Lyle D.
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Launis, Karen L.
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optmized cryIB"
/note= "Disclosed in Figure 6."
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GENERAL INFORMATION:
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                                     CLASSIFICATION: 800 PRIOR APPLICATION DATA:
                                                                                                                                                                                       COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk
                                                                                                           SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
ADDRESSEE: No. 5859336artis Corporation
                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Suttie, Janet L.
TITLE OF INVENTION: SYNTHETIC DNA SEQUENCE HAVING ENHANCED
TITLE OF INVENTION: INSECTICIDAL ACTIVITY IN MAIZE
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                                                                           APPLICATION NUMBER: FILING DATE: 02-JUN
                                                                                                                                                   COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
APPLICATION NUMBER: US 0 FILING DATE: 25-SEP-1992
                                                                                                                                                                                                                                                                                     STREET: Rd., POB 2005
CITY: Tarrytown
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                                                                                                                                                                                                                                                 COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAGCGAGCTGCCCGTGATCCCCGGCGTGAACGCCGAGATCTTCGAGGAGCTGGAGGGCCA 2966
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Dunder, Erik M.
Pace, Gary M.
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Lewis, Kelly S.
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                                                                         02-JUN-1995
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                 US 07/951,715
                                                                                             US/08/459,448A
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                                                                                                                                    RESULT 12
US-08-459-595A-6
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Best Local Similarity
                      Sequence 6, Application US/08459595A Patent No. 6018104 GENERAL INFORMATION:
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INFORMATION FOR SEQ ID NO: 6:
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REFERENCE/DOCKET NUMBER: TELECOMMUNICATION INFORMATION:
TELEPHONE: (919)541-8582
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LOCATION: 1.3621
OTHER INFORMATION:
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APPLICANT: Koziel, Michael G.
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optmized cryIB"
/note= "Disclosed in Figure 6."
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                                                                     Matches 219;
                                                                                                      Query Match
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STREET: ku.,
CITY: Tarrytown
CITY: New York
TYCA
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/459,595A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 25-SEP-PRIOR APPLICATION DATA:
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MEDIUM TYPE: Floppy
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TITLE OF INVENTION: SYNTHETIC DNA SEQUENCE HAVING ENHANCED
TITLE OF INVENTION: INSECTICIDAL ACTIVITY IN MAIZE
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ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION DATA:
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                                                                                                                                                         LOCATION: 1..3621
OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
                               743 CTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTGCTTCAGCATCTACCACGG 802
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TTT TERAX: (919)541-8689
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                                                                                                                                                                                                                                                                                                                             LENGTH: 3624 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US 07/951,715 FILING DATE: 25-SEP-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OPERATING SYSTEM:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US 07/772,027
                                                                                     Local Similarity
                                                                                                                                                                                                                            NAME/KEY:
                                                                                                                                                                                                                                                                                                                  TOPOLOGY:
 CTTCGAGTGGAACCCCGACCTGGACTGCAGCTGCCGCGACGAGAAGTGCGCCCACCA 2546
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Patent & Trademark Dept., 520 White Plains
Rd., POB 2005
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Bowman, Cindy G.
Dawson, John L.
Dunder, Erik M.
Pace, Gary M.
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Lewis, Kelly S.
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Merlin, Ellis J.
Launis, Karen L.
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                                                                       Conservative
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SYSTEM: PC-DOS/MS-DOS
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optmized cryIB"
/note= "Disclosed in Figure 6."
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                   COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                  APPLICANT: Pace, Gary M.
APPLICANT: Suttie, Janet L.
TITLE OF INVENTION: SYNTHETIC DNA SEQUENCE HAVING ENHANCED
TITLE OF INVENTION: INSECTICIDAL ACTIVITY IN MAIZE
NUMBER OF SEQUENCES: 94
                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
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                     APPLICATION NUMBER: FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                           COUNTRY:
                                                                                                                                                                                                                                                                  ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAT 2969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAGCGAGCTGCCCGTGATCCCCGGCGTGAACGCCGAGATCTTCGAGGAGCTGGAGGGCCA 2966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAACATCGGCATGATCCACGCCGCCGACAAGCTGGTGCACCGCATCCGCGAGGCCTACCT 2906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCTCATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTT 1219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCT 1159
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAAGTGGCGCGACAAGCGCGAGAAGCTGCAGCTGGAGACCAAGCGCGTGTACACCGAGGC 2786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTCAACGTGAACCTGCC 1039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCGCACCAGGGACCAG---TGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAACGGGGA 979
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                                                                                                                                                                                                                             Research Triangle Park
                                                                                                                                                                                                             NC
                                                                                                                                                                                                                                                E: No. 6075185artis Corporation 3054 Cornwallis Road
                                                                                                                                                                                         USA
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Kramer, Vance C.
Warren, Gregory W.
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Dunder, Erik M.
                                                                                                                                                                                                                                                                                                                                                                                                                                    Rothstein, Steven
Bowman, Cindy G.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Launis, Karen L.
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                                                                                                                               Floppy disk
                                     US/08/459,504B
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Steven J
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INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 3624 base pairs
TYPE: nucleic acid
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-- Tocal Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/459,595
FILING DATE: 02-UUN-1995
APPLICATION NUMBER: US 07/951,715
FILING DATE: 25-SEP-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/772,027
FILING DATE: 04-OCT-1991
2967 CAT 2969
                                                                                                                                                                                                                                                                                                       1040
                                                                                                                                                                                                                                                                                                                                           2727 GAAGTGGCGCGACAAGCGCGAGAAGCTGCAGCTGGAGACCAAGCGCGTGTACACCGAGGC
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REFERENCE/DOCKET NUMBER: CG
TELECOMMUNICATION INFORMATION:
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OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Meigs, J. Timothy REGISTRATION NUMBER: 38
                                      CCT 1222
                                                                                GAGCGAGCTGCCCCTGATCCCCCGGCGTGAACGCCCGAGATCTTCGAGGAGCTGGAGGGCCA
                                                                                                                    GCTCATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTT 1219
                                                                                                                                                                  CAACATCGGCATGATCCACGCCGCCGACAAGCTGGTGCACCGCATCCGCGAGGCCTACCT
                                                                                                                                                                                                           GGGTTTTGAAGAGTTCTGTGCCTTCTACAAGATGATGTCCACCCGCCGGGACCTCTACCT 1159
                                                                                                                                                                                                                                                      CAAGGAGGCCGTGGACGCCCTGTTCGTGGACAGCCAGTACGACCGCCTGCAGGCCGACAC 2846
                                                                                                                                                                                                                                                                                                CCGGCAGAGGGTGAAGCAGATGTTCAGGGAAGCGGACACGGATGACCACCAAGGGACGCT 1099
                                                                                                                                                                                                                                                                                                                                                                                    TGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCACAAGCTCAACGTGAACCTGCC 1039
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGAGGACAGCCTGGCTCGCCGCCA
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optmized cryIB"
/note= "Disclosed in Figure 6."
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Pred. No. 0.
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; NAME/KEY: CDS;; LOCATION: 1..3621;; OTHER INFORMATION: /product= "| optmized crylB" optmized crylB"; /note= "Disclosed in Figure 6."; SEQUENCE DESCRIPTION: SEQ ID NO: 6: US-08-459-444-6
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US-08-459-444-6
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Matches
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GENERAL INFORMATION:
                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INFORMATION FOR SEQ ID NO: 6:
                                          2487 CTTCGAGTGGAACCCCGACCTGGACTGCAGCTGCCGCGACGGCGAGAAGTGCGCCCACCA 2546
803 CAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAGGTGGCGCGCACCTGGGT 862
                                                                                       743
                                                                                                                              Local Similarity tes 219; Conserv
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MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC COMPDATIBLE

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.30

CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: linear
MOLECULE TYPE: other nucleic acid
DESCRIPTION: /desc = "Synthetic DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08/459,444A
FILING DATE: 02-Jun-1995
CLASSIFICATION: «UNKnown»
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                             HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELECOMMUNICATION INFORMATION: TELEPHONE: (919)541-8587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
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ADDRESSEE: No. 6121014artis Agribusiness Biotechnology Research, Inc. STREET: 3054 Cornwallis Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES: 94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Koziel,
                                                                                   CTTCCAGCGCTACCCTGACGCCAGCTTCGACCCCAACTGCTGCTTCAGCATCTACCACGG 802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME: Meigs, J. Timothy
REGISTRATION NUMBER: 38,241
REFERENCE/DOCKET NUMBER: S-18805/P1/CGC1577/CIP/DIV6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US 07/951,715
FILING DATE: 25-SEP-1992
APPLICATION NUMBER: US 07/772,027
FILING DATE: 04-OCT-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STATE: NC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 3624 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: (919)541-8689
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                                                                                                                              1.1%;
ilarity 45.3%;
Conservative
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INVENTION: METHOD FOR PRODUCING A PLANT-OPTIMIZED NUCLEIC ACID CODING SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27709
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Kramer,
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                                                                                                                         Score 49.4; DB 3; Length 3624; Pred. No. 0.25; Indels 3
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                                                                                                                                             TELEPHONE: 919-541-858
TELEFAX: 919-541-8689
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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HYPOTHETICAL:
                                 MOLECULE TYPE: other nucleic acid
                                                                                                                                                                                                     TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION:
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                                                                                                                                                                                                                    NAME: Pace, Gary M.
REGISTRATION NUMBER: 40
REFERENCE/DOCKET NUMBER:
                                                 TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
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CITY: Research Triangle Park
               DESCRIPTION:
                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: FILING DATE: 01-API
                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: PatentIn Release #1.0,
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                                                                                                        LENGTH:
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             desc = "Synthetic DNA"
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NAME/KEY: CDS
ILOCATION: 1.3621
OTHER INFORMATION:
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OTHER INFORMATION:
US-09-053-549-7
Search completed: March 28,
Job time : 395 secs
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                                                                   CAT 2969
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Minimum DB seq length: 0
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Maximum Match 100%
Listing first 45 summaries
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Scoring table:
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/ Cgn2_6/ptodata/2/pubpna/US07_PUBCOMB.seq:*
/ Cgn2_6/ptodata/2/pubpna/US07_NEW_PUB.seq:*
/ Cgn2_6/ptodata/2/pubpna/US06_PUBCOMB.seq:*
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GenCore version 5.1.4_p5_4578 (c) 1993 - 2003 Compugen Ltd.
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

No.	Score	Match	Match Length	Bd	ID	Description
<u>.</u>	4635	100.0	4635	10	US-09-927-112-1	Sequence 1, Appli
N	3624	78.2		10	US-09-927-112-3	Sequence 3, Appli
ω	308.6	6.7		10	US-09-804-969-14	Sequence 14, Appl
4.	308.6	6.7		10	US-09-908-664-3	Sequence 3, Appli
տ	308.6	6.7	2629	10	US-09-908-664-1	Sequence 1, Appli
6	308.6	6.7		10	US-09-804-969-20	Sequence 20, Appl
7	307	6.6		10	US-09-835-996A-7	Sequence 7, Appli
80	301.8	6.5	2211	10	US-09-800-971-3	Sequence 3, Appli
9	301.8	6.5		10	US-09-800-971-1	Sequence 1, Appli
10	289.8	6.3		10	US-09-880-107-3293	Sequence 3293, Ap
11	276.8	6.0		10	US-09-728-952-35	Sequence 35, Appl
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16	144.2	3.1		10	US-09-728-952-78	Sequence 78, Appl
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18	144.2	3.1	10172	10	US-09-822-635-1	Sequence 1, Appli
19	143.6	3.1	1827	10	US-09-908-664-6	Sequence 6, Appli

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US-09-804-969-18 US-09-938-842A-787 US-09-910-943-594	US-09-476-242-13 US-09-476-242-9 US-09-476-242-10 US-09-476-242-11 US-09-476-242-17	US-09-764-870-92 US-09-764-870-92 US-09-476-242-16 US-09-476-242-17 US-09-476-242-14 US-09-476-242-14	US-09-828-447-7 US-10-096-961-3 US-09-828-447-1 US-09-828-447-6 US-09-867-701-5561 US-09-867-701-5561 US-09-764-870-112 US-09-764-870-112	US-09-908-664-4 US-09-867-550-1333 US-09-728-952-59 US-09-765-298A-9 US-09-796-692-3034 US-09-796-692-8940
18, 787, 594	13, 9, A 10,	Sequence 20, Appl Sequence 16, Appl Sequence 17, Appl Sequence 15, Appl Sequence 15, Appl Sequence 14, Appl	Sequence 7, Appli Sequence 3, Appli Sequence 1, Appli Sequence 6, Appli Sequence 5561, App Sequence 512, App Sequence 50, Appl	Sequence 4, Appli Sequence 1333, Ap Sequence 59, Appli Sequence 9, Appli Sequence 9034, Ap Sequence 8040, Ap

## ALIGNMENTS

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RESULT 1
US-09-927-112-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: FastSEQ for Windows Version 4.0
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LENGTH: 4635
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Millennium Pharmaceuticals, Inc.
APPLICANT: Millennium Pharmaceuticals, Inc.
APPLICANT: Silos-Santiago, Inmaculada
TITLE OF INVENTION: 32544, a novel human phospholipase C and
TITLE OF INVENTION: 32544, a novel human phospholipase C and
TITLE OF INVENTION: 32544, a novel human phospholipase C and
TITLE OF INVENTION: USES thereof
FILE REFERENCE: 38155-20048.00
CURRENT APPLICATION NUMBER: US/09/927,112
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: US 60/246,808
PRIOR FILING DATE: 2000-11-08
NUMBER OF SEQ ID NOS: 17
                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: CDS
LOCATION: (435)...(4058)
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ORGANISM: Homo sapiens
FEATURE:
121
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3421 GAGTGCGGCCCCCGCGTGTCCTGGACCGGCCCCGGGCCTGCTGGGATGGCCGCCACATGC.	<b>Q</b>
3361 CCGGCAGCGGCAGCCCCCGAGGTAAGGCGCCAGCTGCGGTGGCAGAGAAGAGCCCTGTG	B 8
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TTCATTGGCCAGAGGACGCTGGCCT 	
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581 ACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGTACTCAAGCCTGGGTGCATGT	Qу 2 Db 2
521 ACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGGCGGATGCTGCAGCTGA	
461 GCATCTACCCCTCCTACCGTGTGGACTCCAGCAACTACAACCCGCAGCCCTTCTGGA	
401 ACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTACGCTTCAACCAGCAGCAGCTCTCCCG	Qy 2 ДЬ 2
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CCCACACCACCCTGCCCTCCAGACC	Qy dg
41 GCTGCTTTGGGCTGAAGCACCCCACTAGAA 	Qy dd
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21 TCCCTACTGGGAAGTCTGATGTGGGCAGGTAGTGCAGCTGCTGGGCGTCT	Qу
61 CTGGGACTGGGGGCCATGTACCATCCCATTCCCACCTCCCTC	Qу
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81 TGAGGCCCTGGGACTTGGGTGGA	Db Qq
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961 CGTGGACGGTGTCGCCTCGTGCTGCTGCTGCTGCTGCTGCTGCTGC	B &
901 GCGTGGTCCTCCCGCACGCCCCTGGCATGGCTGGGCCT	Db Qq
3841 AGCTGGAGGAGATCAGGAGTAAATCCCCCATGTTCTCCGCCGGTAAGCCCCCTTTGCCCT 3900	Db Qy
781 AGGGTGCCTGCAGGCAACCGGGGGCCCTGCAGGGAGAGATGAGT	Db Qq
1 CCTCGGACTCCAGCAGCCCAGACAGCCCGGGCATCCCCCGAAA	Db Qy
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601 CTGACTCACTGGGGGGCCCCCTGCTGTGGCCTGGACCCTCACGCTATC	Db Qy
541 CACCCAGCCCGGGGCCTGCAAGCAGGCAGGCAGCCATTCGCCAGCAGCCAGC	D Q
481 TGAAGTGTGTGGGGGATCCTGCGCGGGGTGAACACCGGGGGC	D Q

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APPLICANT: Millennium Pharmaceuticals, Inc.
APPLICANT: Millennium Pharmaceuticals, Inc.
APPLICANT: Millennium Pharmaceuticals,
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APPLICANT: Millennium Pharmaceuticals
APPLICANTION: Uses thereof
FILE REFERENCE: 38155-20048.00
CURRENT FILING DATE: 2001-08-10
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: US 60/246,808
PRIOR APPLICATION NUMBER: US 60/246,808
PRIOR APPLICATION NUMBER: US 60/246,808
PRIOR APPLICATION DATE: 2000-11-08
NUMBER OF SEQ ID NOS: 17
SOPTWARE: FastSEQ for Windows Version 4.0
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Best Local Similarity 100.0%; Pred. No. 0;
Matches 3624; Conservative 0; Mismatches
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Patent No. US20020106774A1
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TYPE: DNA
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                                                                CGCCGCCAGCGCACCAGGGACCAGTGGCTGAAGCAGACGTTTGACGAGGCCGACCAAGAAC 974
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gagtacccagtgatcctgtccatcgaaaaccactgcag gcccagtatctgactgacatccttgggacaagctgga	:01 ABATATGCCTTCATCAAGAATGAGTACCCAGTGAT :95 GTCATCCAGCAGAAGAAAATGGCCCAGTATCTGAC	12	S 13
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RESULT 3 US-09-804-969-14

Sequence 14, Application US/09804969 Patent No. US20020081595A1 GENERAL INFORMATION:

APPLICANT: Hu, Yi
APPLICANT: Nepomnichy, Boris
APPLICANT: Donoho, Gregory
APPLICANT: Hilbun, Erin
APPLICANT: Turner, C. Alexander
APPLICANT: Abuin, Alejandro

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                                              CCTCGTGTGCTCGTGCTCGTGGCTCTGTATCCGTGGCACTGTCTCCGTGGCACTCTGCTC
                                                                                                          AGGAGTAAATCCCCCATGTTCTCCGCCGGTAAGCCCCTCTTGCCCTGCGTGGTCCTCCCG
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                                                                                                                                              CAACCGGGGGCCCTGCAGGGAGAGATGAGTGCCTTGTTTGCTCAAAAGCTGGAGAGATC
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Best|Local S
Matches 679
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SEQ ID NO 14
LENGTH: 2289
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APPLICANT: Sands, Arthur T.
TITLE OF INVENTION: No. US20020081595A1el Human Phospholipases and Polynucleotides
FILE REFERENCE: LEX-0148-USA
CURRENT APPLICATION NUMBER: US/09/804,969
CURRENT FILING DATE: 2001-03-13
PRIÓR APPLICATION NUMBER: US 60/188,885
PRIÓR PILING DATE: 2000-03-13
PRIÓR APPLICATION NUMBER: US 60/189,693
PRIÓR FILING DATE: 2000-03-15
PRIÓR APPLICATION DATE: 2000-03-15
PRIÓR APPLICATION DATE: 2000-03-15
PRIÓR FILING DATE: 2000-03-15
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                                                                                                                                      TTTGAGCCATGCCCAGAAAACAAGAGTAAGGGGCCTGCTGGGCATTGATGGCTTCACCAAC 134:
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SEQ ID NO 3
LENGTH: 2289
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Patent No. US20020115178A1
                                                                                                                                                                                                          Best
                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                    FILE REFERENCE: 38155-20022.00
CURRENT APPLICATION NUMBER: US/09/908,664
CURRENT FILING DATE: 2001-07-17
PRIOR APPLICATION NUMBER: US 60/218,675
PRIOR FILING DATE: 2000-07-17
NUMBER OF SEQ ID NOS: 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Millennium Pharmaceuticals, Inc.
APPLICANT: Meyers, Rachel
APPLICANT: Rudolph-Owen, Laura
APPLICANT: Tsai, Fong Yin
TITLE OF INVENTION: 16816 AND 16839, NOVEL HUMAN
TITLE OF INVENTION: PHOSPHOLIPASE C MOLECULES AND
                                                                                                                                                                                                                                                                                            TYPE: DNA
ORGANISM: Homo sapiens
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                                            TTGCTGCGTAGCCTGGCAGAGGAGCTCCCCCTGGAGCAGGGCTTCACCATTGTCTTCCAT
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54.2%;
                                                                                                                                                                              0; Mismatches 559;
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Pred. No. 2.2e-65;
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APPLICANT: Millennium Pharmaceuticals,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 1
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TITLE OF INVENTION: 16816 AND 16839, NOVEL HUMAN
TITLE OF INVENTION: PHOSPHOLIPASE C MOLECULES AND USES THEREFOR
FILE REFERENCE: 38155-20022.00
CURRENT APPLICATION NUMBER: US/09/908,664
CURRENT FILING DATE: 2001-07-17
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                                        1284 TITGAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAAC 1343
                                                                                                                                 1224 CAGGIGGAGCAGAAGAIGGCGGGTGTGACCCTCGAGAGCTGCCAGGACAICAICGAGCAG 1283
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                                                                                                                                                                              TTTGAAAGTTTTTCAGCTGATGGGCAGAAGCTGACTCTGCTGGAATTTTTTGGATTTCCTC 949
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                                                                                                                                                                                                                           ATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTG 1223
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Rudolph-Owen,
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RESULT | 6

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; Sequence 20, Application US/09804969

; Patent No. US20020081595A1
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                                                       SEQ ID NO 20
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                                                                    PRIOR APPLICATION NUMBER: US 60/188,885
PRIOR FILING DATE: 2000-03-13
PRIOR APPLICATION NUMBER: US 60/189,693
PRIOR FILING DATE: 2000-03-15
NUMBER OF SEQ ID NOS: 20
SOFTWARE: FastSEQ for Windows Version 4.0
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APPLICANT:
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                                                                                                                                                                            FILE REFERENCE: LEX-0148-USA
CURRENT APPLICATION NUMBER: US/09/804,969
CURRENT FILING DATE: 2001-03-13
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APPLICANT: Nepomu
APPLICANT: Donoh
                                                                                                                                                                                                                          APPLICANT: Sands, Arthur T.
TITLE OF INVENTION: No. US20020081595Alel Human Phospholipases and Polynucleotides
ORGANISM: homo sapiens
                      LENGTH: 2709
TYPE: DNA
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Hilbun, Erin
Turner, C. Alexander Jr.
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Friedrich, Glenn
Zambrowicz, Brian
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US-09-804-969-20
 Query Match 6.7%;
Best Local Similarity 54.2%;
Matches 679; Conservative
Score 308.6; DB 10;
Pred. No. 2.3e-65;
0; Mismatches 559;
                                    Length 2709;
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PRIOR APPLICATION NUMBER: US 09/714,936
PRIOR APPLICATION NUMBER: US 09/714,936
PRIOR APPLICATION NUMBER: US 09/667,298
PRIOR APPLICATION NUMBER: US 09/667,298
PRIOR FILING DATE: 2000-09-22
PRIOR APPLICATION NUMBER: US 09/631,451
PRIOR APPLICATION NUMBER: US 09/631,451
PRIOR APPLICATION NUMBER: US 09/598,042
PRIOR FILING DATE: 2000-06-20
PRIOR FILING DATE: 2000-06-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 7, Application US/09835996A Patent No. US20020142953A1
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                                                                                                                                                                        Query Match 6.6%; Score 307; DB 10; Length 1840; Best Local Similarity 54.1%; Pred. No. 5.2e-65; Matches 678; Conservative 0; Mismatches 560; Indels 15
                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: PatentIn version 3.0 SEQ ID NO 7
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APPLICANT: Loeb, Debra
APPLICANT: Montgomery, Julie
APPLICANT: Tang, Y. Tom
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CURRENT APPLICATION NUMBER: US/09/835,996A
CURRENT FILING DATE: 2001-04-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQ ID NOS: 45
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APPLICANT: Wang, Dunrui
TITLE OF INVENTION: MATERIALS AND METHODS RELATING TO LIPID METABOLISM
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                                                                                                                                                                                                                                                                                       ORGANISM: Homo sapiens
FEATURE:
NAME/KEY: CDS
LOCATION: (140)..(1840)
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GGCCGCCGCTCCAACCTGGACCTGATGGCCAACAGTGTTGAGGAGGCCCAGATATGGATG
                          AGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAGGTGGCGCGCACCTGGGTC 863
                                                                                       TIGCTGCGTAGCCTGGCAGAGGAGCTCCCCCCTGGAGCAGGGCTTCACCATTGTCTTCCAT 427
                                                                                                                                TTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAACTGCTTCCAGCATCTACCACGGC 803
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Montgomery, Julie
Tanq, Y. Tom
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 CCTGAGTTGGAAGAGTCAGAATTGGCGCTGGAGTCCCAGTTTGAGACTGAGCCTGAGCCC 1552
                                                                      GTGAAGGGGAAGAAGTTAACACTTGAGGAAGACCTGGAATATGAGGAAGAGGAAGCAGAA 1492
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                                                                                                                                                               GTGAGCAGTGAAGATGCCACACACTCCCCTCTCCACAGATGCTCAAGGGCAAGATCCTC 1823
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; ORGANISM: Homo sapiens
US-09-800-971-3
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US-09-800-971-3
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APPLICANT: Rachel A. Meyers
TITLE OF INVENTION: 16835, A NOVEL HUMAN PHOSPHOLIPASE C
TITLE OF INVENTION: FMAILY MEMBER AND USES THEREOF
FILE REFERENCE: 10448-023001
CURRENT APPLICATION NUMBER: US/09/800,971
CURRENT FILING DATE: 2001-03-06
PRIOR APPLICATION NUMBER: 60/187,453
PRIOR APPLICATION NUMBER: 60/187,453
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NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSEQ for Windows Version 4.0
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Best Local Similarity
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PRIOR APPLICATION NUMBER: 60/188,032
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US-09-800-971-1
US-09-800-971-1
; Sequence 1, Application US/09800971
; Patent No. US20020098577A1.
; GENERAL INFORMATION:
APPLICANT: Rachel A. Meyers
TITLE OF INVENTION: 16835, A NOVEL HUMAN PHOSPHOLIPASE
TITLE OF INVENTION: FAMILY MEMBER AND USES THEREOF
FILE REFERENCE: 10448-023001
CURRENT APPLICATION NUMBER: US/09/800,971
CURRENT FILING DATE: 2001-03-06
PRIOR APPLICATION NUMBER: 60/187,453
PRIOR APPLICATION NUMBER: 60/187,453
PRIOR FILING DATE: 2000-03-07
PRIOR FILING DATE: 2000-03-07
PRIOR FILING DATE: 2000-03-09
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 1
LENGTH: 3425
TYPE: DNA
ORGANISM: Homo sapiens
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PRIOR APPLICATION NUMBER: US 60/237,054
PRIOR FILING DATE: 2000-10-02
NUMBER OF SEQ ID NOS: 3950
SOFTWARE: Patentin Ver. 2:1
SEQ ID NO 3293
LENGTH: 2627
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Best Local Similarity
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CURRENT APPLICATION NUMBER: US/09/880,107
CURRENT FILING DATE: 2001-06-14
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AAGATCCTCGTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGGATGCGGAGGAAGGC 1874
                                                                                           AACCGACCACTG---GATGGGGTCACCAACAGCCTGCCCTCCCCTGAGCAACTGAAGGGG 1393
                                                                                                                                                                  CTGTCATCAGTGAGCAGTGAAGATGCCACCACACTCCCCTCTCCACAGATGCTCAAGGGC 1814
                                                                                                                                                                                                                                                                                                                                                                                                                                    AAATATGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCATCGAAAACCACTGCAGT 1694
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                                                                                                                                                                                                                                  CTGGAGCAGCAGCGCGTGATGGCGCGCGCCACCTGCCATGCCATCCTGGGCCCCATGCTGTTG 1336
                                                                                                                                                                                                                                                                                                     GTCATCCAGCAGAAGAAAATGGCCCAGTATCTGACTGACATCCTTGGGGACAAGCTGGAC 1754
                                                                                                                                                                                                                                                                                                                                                                        GACTATGCCTTCAAGGCGTCCCCCTACCCTGTCATCCTATCCCTGGAGAACCACTGCACA 1276
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US-09-728-952-35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILE REFERENCE: 799
CURRENT APPLICATION NUMBER: US/09/728,952
CURRENT FILING DATE: 2000-11-30
NUMBER OF SEQ ID NOS: 101
SOFTWARE: pt FL genes Version 2.0
SEQ ID NO 35
SEQ ID NO 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 743; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
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APPLICANT:
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APPLICANT: Drmanac, Radoje T.

TITLE OF INVENTION: No. US20020111302Alel Nucleic Acids
TITLE OF INVENTION: Polypeptides
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ORGANISM: Homo sapiens
FEATURE:
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LOCATION: (128)..(2512)
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        703
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                                                                                                                                                                                                                                                                                             779 CIGCIGCTICAGCATCTACCACGGCAGCCACCGAGTCGCTGGACCTGGTCTCCACCAG
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                                                                                                                                                                                                                                                                                                                                           478 CCGCGAGGGCCACCAGTCCGAGGGCCTGCGGCGCTTC---GGGGGTGCCTTCGCGCCCAGC 534
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CCGGGCTGACTCCAACCAGGACAGCAAGATGAGCTTCAAGGAGATCAAGAGCCTGCTGAG
                                     CGAGGCCGACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCA 1018
                                                                                                                                                                                                            CAGCGAGGTGGCGCGCACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGA 898
                                                                                                                                                                    CATGAGCCAGCGCGAGCGGCTA------GACCACTGGATCCACTCCTATCTGCA
                                                                                                                          CGAGGACAGCCTGGCTCGCCGCCAGCGACCAGGGGACCAGTGGCTGAAGCAGACGTTTGA 958
                                                                                                                                                                                                                                                                                                                                                                                    GAGTGAGGGGCAGTCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCAA 778
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Wang, Dunrui
Yamazaki, Vicki
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Asundi, Vinod
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 276.8; DB 10; Length 3068
Pred. No. 1.2e-57;
0; Mismatches 607; Indels 42;
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                                                                                                   RESULT 12
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                     Sequence 64, Application US/09728952
Patent No. US2002011302A1
GENERAL INFORMATION:
APPLICANT: Tang, Y. Tom
    APPLICANT:
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Tang, Y. Tom
Zhou, Ping
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SEQ ID NO 64
LENGTH: 306
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
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SOFTWARE: pt_FL_genes Version 2.0
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LOCATION: (128)..(2512)
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Wang, Dunrui
Yamazaki, Vicki
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Asundi, Vinod
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Pred. No. 1.2e-57;
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RESULT | 13
US-09-764-868-24
                                                               ; SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 24
; LENGTH: 567
TYPE: DNA
ORGANISM: Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                         Sequence 24, Application US/09764868 Patent No. US20020168711A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                CURRENT APPLICATION NUMBER: US/09/764,868 CURRENT FILING DATE: 2001-01-17
                                                                                                                                                                                                                                                                                     APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins,
FILE REFERENCE: PTZ32
                                                                                                                                                                                                 Prior application data removed - refer to PALM NUMBER OF SEQ ID NOS: 1510
LOCATION: (236)
OTHER INFORMATION: n equals a,t,g,
                         NAME/KEY: SITE
LOCATION: (236)
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RESULT 14
US-09-955-999-31
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                                                                                                                                                                                                                            NUMBER OF SEQ ID NOS: 139
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 31
                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 31, Application US/09955999 Publication No. US20030036505A1 GENERAL INFORMATION:
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CURRENT APPLICATION NUMBER: US/09/955,999
CURRENT FILING DATE: 2001-09-20
                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Barash et al.
TITLE OF INVENTION: Signal Transduction Pathway Component Polynucleotides,
TITLE OF INVENTION: Antibodies, and Methods Based Thereon
                                                                                                                                                                                                                                                                                      PRIOR APPLICATION NUMBER: 60/234,997 PRIOR FILING DATE: 2000-09-25
OTHER INFORMATION: NAME/KEY: SITE LOCATION: (542)
                                                        NAME/KEY: SITE
LOCATION: (238)
                                                                                              LOCATION: (236)
OTHER INFORMATION:
                                                                                                                                                    FEATURE:
                                                                                                                                                                    ORGANISM: Homo sapiens
                                                                                                                                                                                          TYPE: DNA
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                                                                                                                                                                                                            LENGTH:
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OTHER INFORMATION: n equals a,t,g, or c
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LOCATION: (556)
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Pred. No. 4.7e-38;
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OTHER INFORMATION: n equals a,t,g, or

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APPLICANT: Qian, Xiahong
APPLICANT: Wang, Dunrui
APPLICANT: Wang, Dunrui
APPLICANT: Wang, Dunrui
FITLE OF INVENTION: MATERIALS AND METHODS RELATING TO
FILE REFERENCE: 28110/35915A
CURRENT APPLICATION NUMBER: US/09/835,996A
CURRENT FILING DATE: 2001-04-16
PRIOR APPLICATION NUMBER: US 60/197,137
PRIOR FILING DATE: 2000-04-14
PRIOR FILING DATE: 2000-01-17
PRIOR APPLICATION NUMBER: US 09/714,936
PRIOR FILING DATE: 2000-01-7
PRIOR APPLICATION NUMBER: US 09/667,298
PRIOR APPLICATION NUMBER: US 09/631,451
PRIOR FILING DATE: 2000-08-03
PRIOR APPLICATION NUMBER: US 09/631,451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-835-996A-18
; Sequence 18, Application US/09835996A
; Patent No. US20020142953A1
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; LOCATION: (556)
; OTHER INFORMATION: n
US-09-955-999-31
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NUMBER OF SEQ ID NOS: 45
SOFTWARE: PatentIn version 3.0
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Liu, Chenghua
Asundi, Vinod
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Zhou, Ping
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Drmanac, Radoje
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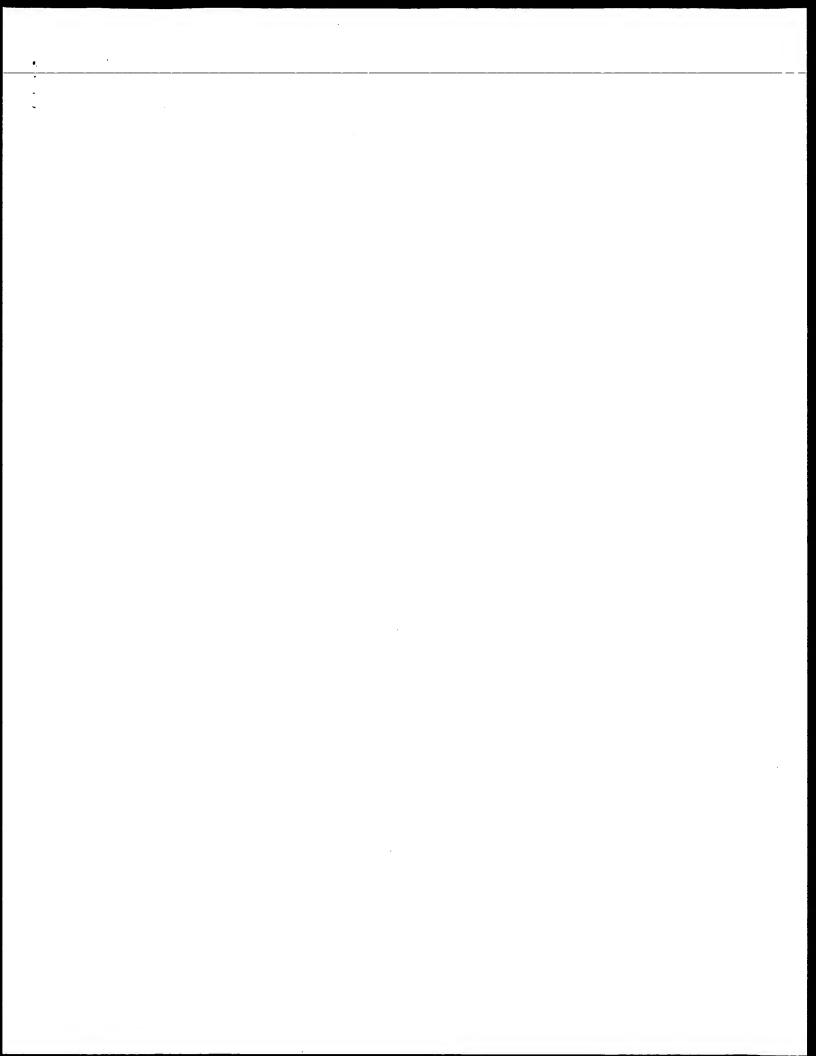
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NAME/KEY: CDS
LOCATION: (151)..(1170)
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                                                                                                                                                                                                                                                                                                                                                                                                  TTTGAAGAGTTCTGTGCCTTCTACCAAGATGATGTCCACCCGGCGGGACCTCTACCTGCTC 1163
                           GACCAGCTCATGTCCCAGTCACGGGTGGACATGTAT 1499
                                                                                                                                                                                                                                                  CAAGAGGAGCAGAAGGAGAGACTGCACCTCTGAGCTTGCTCTGGAACTCATTGACCGC
                                                                                                                                                                                                                                                                              CAGGTGGAGCAGAAGATGGCGGGTGTGACCCTCGAGAGCTGCCAGGACATCATCGAGCAG 1283
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GACCAGCTTTGCGGCCAGAGCAGCGTCGAGGGATAT 1119
                                                                                            TTTGAAAGTTTTTCAGCTGATGGGCAGAAGCTGACTCTGCTGGAATTTTTTGGATTTCCTC 843
                                                                                                                                                                                                                                                                                                                                           ATGCTGACCTACAGCAACCACAAGGACCACCTGGATGCCGCCAGCCTGCAGCGCTTCCTG 1223
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Similarity 51.7%;
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Pred. No. 5.3e-26;
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Search completed: March Job time: 449 secs

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Copyright (c) 1993 - 2003 Compugen Ltd.
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Pred. No. is the number of results predicted by chance to have a

score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

## Result No. RESULT 1 AX304472 LOCUS REFERENCE AUTHORS VERSION KEYWORDS SOURCE ACCESSION იიი 0.0 იიი a O 00000 ORGANISM Score Sequence 10 AX304472 AX304472.1 Das,D., Reddy,R., Yao,M.G., Nguyen,D.B., Lu,Y., Tribouley,C.M., Yue,H., Khan,F.A., Gandhi,A.R., Au-Young,J., Lal,P., Kearney,L., Elliott,V.S., Ding,L. and Thornton,M. Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; l Mammalia; Eutheria; Primates; Catarrhini; Hominidae; AX304472 human. Query Match 69.1 49.1 45.6 34.1 31.2 31.2 18.6 0.66 0.56 0.56 .5 128899 .5 146547 .5 146547 .5 158634 .5 165394 .5 171749 .5 177411 .5 179270 .5 179270 .5 179270 .5 19918 .5 19918 .5 19918 .5 19918 .5 19918 .5 19619 .5 19619 .5 226966 4237 bp 10 from Patent WO0185956. 77863 174647 190494 67142 6946 154736 Length DB 176291 106323 2480 2419 2512 2614 3111 4408 4457 GI:17383843 245 976 17 HSM800908 OCPLCMR AF111852 HSG6PT2 HUMPLCA AF078163 AF078163 AF097831 HSA17864 AL391139 AF481053 HSS11824 AP000909 AC027682 AC112440 AP0005696 AC027682 AC112446 AC005696 AC0126653 AC11018350 AC1126653 AC11018350 AC1126653 AL139246 BC019679 AL513477 AX304472 AK074149 AC094559 AF110821 AC023583 AC121463 H AC129979 AC009061 AC021091 AC126045 HSA338904 AL831788 AB007919 AP00085 MMU29695 ALIGNMENTS DNA linear AL831788 Mus muscu AC120432 Mus muscu AJ38904 Homo sapi AC023583 Homo sapi AC023583 Homo sapi AC121463 Rattus no AC102459 Rattus no AF110821 Homo sapi AL110247 Homo sapi AL9747 O.cuniculus Af111852 Homo sapi AF116863 Homo sapi AF116863 Homo sapi AF116863 Homo sapi AF078163 Homo sapi AF097831 Homo sapien Y17864 Homo sapien AL391139 Human DNA AF481053 Mus muscu AL022394 Human DNA AP000909 Homo sapi AP000977 Homo sapi AP000877 Homo sapi AP000877 Homo sapi AC005696 Homo sapi AP003392 Homo sapi AC110145 Rattus no AC108350 Rattus no AC126653 Rattus no AX402958 Sequence AX392826 Sequence AX304472 Sequence Description AL513477 AL139246 AB007919 Homo sapi AL442031 H.sapiens AJ296951 Mus muscu AC127633 Rattus no AP000854 Homo sapi AC021091 AC129979 Mus muscu AP000833 Homo sapi Euteleostomi; PAT 30-NOV-2001 Homo. 6 Human DNA 9 Homo sapi 7 Human DNA Homo sap: Homo sapi Homo sapı Rattus no

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867 CACCTGGGAGGAGACCCTGGTTTTCATGGTGCACATG	dg VQ
1807   GCTCCCTGTGGACTGCAGCAGGAGCAGACCCGCGTGGTGGACGACAACCGGGTTCAACCC	g 4
74/ CTCATGCTGGGGGACCGTGGGGAATCATCGACCCCTTTG	Db Q
68/ GCICAAGAAGCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCG	Db Q
62/ GCCIGGGIGCAIGIGCCAGGGCGIGTTCAACCCCAACTCGGAGGACCACCCCTGCCCGGGCA 2	Db Q
1567 GATGCTGCAGCTGAACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGTACTCAA 262	) DB QQ
:507 GCAGCCCTTCTGGAACGCCGGCTGCC. 	B 8
447 GCAGCAGCTCTCCCGCATCTACCCCTCCTCCTACCGTGTGGACTCCAGCAF	Db Qy
387	B 8
327 CGTGGCCACCCACGACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGT0	P 42
267 GCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCTCTGACCTGG 	B 8
207 CGTGGA,GGAGGGAGATGA,GGGTCA,GGACTCCCCGGGAGG 	D Q
907 CGTCGTGGGAAGCTTCTCCAGGCGCAAGAAGAAGACGCAAGCAA	) Db &
BARGAGGACGTGGAGTCTGGGGAAGATGCCGGGGGCCAGCAGAGAGACGCCAATGGCCGCCT 190	Ş ₽
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2027 CCCCAACAACTTCTCCGTCTCCCACACTGTCCCCATCTGGAAAGCTCGGACGCAAGAGAGAA 2086	ρ <b>4</b>
TICCCTCATCAAAGAGTCGAAGATTCGGGACTGTGAGGA 20 	9d Qy
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Homo sapiens mRNA for FLJ00222 p
AK074149
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Homo sapiens
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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          /codon_start=2
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                                                                                                                                                                        . .441)
                                                                                                                                                                                   note="vector:pBluescriptII"
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BASE COUNT ORIGIN Query Match Best Local Simi Matches 2474; 2881 2761 2701 2581 2521 2461 2821 2641 2401 2281 2161 2101 TGGAGTCTGGGGAGGATGCCGGGGCCAGCAGCACGCAATGGCCGCCTCGTCGTCGTGGGAAGCT 2160 2341 2221 555 675 495 435 735 315 255 195 135 Local Similarity 99.8 hes 2474; Conservative 75 15 CCCTGGTTTTCATGGTGCACATGCCGGAGATCGCGCTGGTCCGCTTCCTCGTCTGGGACC 2940 ACCGTGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGTGGACT GCCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAAGCAGC GCATCTACCCCTCCTACCGTGTGGACTCCAGCAACTACAACCCGCAGCCCTTCTGGA 2520 TGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGCGCACTCCATGCTGGGGG ACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGTACTCAAGCCTGGGTGCATGT GCAGCAGGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCACCTGGGAGGAGA GCAGCAGGAGCCGGACGCGTGGTGGACGACAACGGGTTCAACCCCACCTGGGAGGAGA GCCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAAGCAGC ACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGCGGATGCTGCAGCTGA 2580 GCATCTACCCCTCCTACCGTGTGGACTCCAGCAACTACAACCCGCAGCCCTTCTGGA ACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTACGCTTCAACCAGCAGCAGCTCTCCC ACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGTTCCAGCGAGACCAAGGCCC 2400 TCTCCAGGCGCAAGAAGGAGGAGCAAGCTGAAGAAGGCGGCCAGCGTGGAGGAGGAG 2220 ACCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGTGGACT TGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCGCGACTCCATGCTGGGGG ACGCCGGCTGCCAAATGGTTGCCCTGAACTACCAGTCAGAGGGGCGGATGCTGCAGCTGA ACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGTCCTTCAGCGAGACCAAGGCCC 314 TGGAGTCTGGGGAGGATGCCGGGGGCAGCCAGCGCAATGGCCGCCTCGTCGTGGGAAGCT 74 ACCAGATTCTGCAGCAGAAGCCGGCGCAGTACCTACGCTTCAACCAGCAGCAGCTCTCCC 374 TCTCCAGGCGCAAGAAGAAGGCCAGCCAAGCTGAAGAAGGCGGCCAGCGTGGAGGAGGAGGAG 134 740 DEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSET
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3960 1874	3901 GCGTGGTCCTCCCGCACGCCCCTGGCATGGCTGGGCCTGGGTCACCTGCTGCTGCTTCTG :	D 29
3900 1814	3841 AGCTGGAGGAGATCAGGAGTAAATCCCCCATGTTCTCCGCCGGTAAGCCCCCTCTTGCCCT:	D Qy
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                                                                                                                                                                                                                                                                                                                                                      Sequence 10 from Patent AX402958
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                                              AGGAGGGAGATGAGGGTCAGGACTCCCCGGGAGGCCAGAGCCGAGGGGGCGACCCGGCAGA
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CGGGCAGCTCAAGAAGCAGCTGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCCAAGCC
                            ACTCAAGCCTGGGTGCATGTGCCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCC
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Lipid metabolism enzymes
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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/db_xref="taxon:9606"
/note="Incyte ID No: 72023748CB1"
2108 c 2172 g 1041 t
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AGGCGGTAGCGGCTCCATGTCCTCGGACTCCAGCAGCCCAGACAGCCCGGGCATCCCCGA 3760	3701 AGGC      5078 AGGC	B 8
CGCTATCCCGGGGAGAAGCAGAGAGGCCCCCAAGGGTCCTGGGGCCTGGAGGCAGGGTCC 3700	3641 CGCT      5018 CGCT	B 8
CCAGCAGCCCCGGGCCCGGGCTGACTCACTGGGGGCCCCCTGCTGTGGCCTGGACCCTCA 3640	3581 CCAG      4958 CCAG	8 8
GGGCCTGCAGAGGGAGCGGCCACCCAGCCCGGGCCTGCAAGCAGGCAG	3521 GGGC      4898 GGGC	유 성
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AGCCCCAGCCCAGGAGGGGCCCGGCAGCGAGCCCCCCGAGGTAAGGCGCCAGCTGCGGT 3400 	3341 AGCC0      4719 AGCC0	B 8
CACAGGCTCCAAGGGGGTGGCAGACGATGTGGTGCCCCCCGGGCCCGGACCTGCTCCGGA 3340	3281 CACAC       4659 CACAC	용왕
GACCAAGAGCCAGAAGCCGGGCCGCAGGGGCTTCCCGGAGCTGGTCCTGGGTACACGGGA 3280	3221 GACC/       4599 GACC/	g Q
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CTAAAAGGCCTCTTCCTCCGAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGCTGCTGG 3160 	3101 CCTAP       4479 CCTAP	8 8
CTCCATCTTCGTGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGCTCTGGG 3100 	3041 CTCCA        4419 CTCCA	A 4
GGCCTTCAGCAGCATGATGCCAGGCTACAGACACGTGTACCTAGAAGGGATGGAAGAGGC 3040 	2981 GGCCT       4359 GGCCT	유 성
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                                                                  Matches 1496;
                                                                                Best Local Similarity
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3528 AGGTCAAGCAGGCTCTGGGCCTAAAAGGCCTCTTCCTCCGAGGCCCAAAGCCCGGCTCGC 3587
                   3082 AGGTCAAGCAGGCTCTGGGCCTAAAAGGCCTCTTCCTCCGAGGCCCAAAGCCCGGCTCGC 3141
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens mRNA for KIAA0450 protein, complete cds. AB007919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Seki,N., Ohira,M., Nagase,T., Ishikawa,K., Miyajima,N., Nakajima,D., Nomura,N. and Ohara,O. Characterization of cDNA clones in size-fractionated cDNA libraries from human brain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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KIAA0450 protein.
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GACRQPGALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAGPGSPAAA
SAWTVSPRVLVLVALXPWHCLRGTLLPWLACGP"
                                                                                                                                                                                                                                                                                                                                                                                                                               /tissue_type="prain
/clone_lib="pBluescriptII SK plus"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'clone="HG0217"
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/db_xref="taxon:9606"
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                                                                                    Score 1446; DB 9;
Pred. No. 0;
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4162 CCGGGACTGTGGCCTGACATGCTGGGCCCCTCCGGCTGGGCGCTTCCCCAAACT
4042 TTGCCTGTGGCCCATAGCCCCAGGCCCTCCTGTCTGAGCTTGAGGCCCTGGGACTTGGG
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3922 CTGGCATGGCTGGGCCTGGGTCACCTGCTGCTGCTTCTGCGTGGACGGTGTCGCCT
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)2 GGGCC       18 GGGCC
ACAGCCCGGGCATC
32 GGGCCTGGAGGCA           28 GGGCTGGAGGCA
22 GCTGTGGCCTGGACCCTCACGCTATCCCGGGGAGAAGC
62 GCAGGCAGGCAGC             08 GCAGGCAGGCAGC
02 GCGCCGGCGTGAACACCGGGGGCCTGCAGAGGGAGCG 
42 TGGACGGCCCCGGGCCTGCTGGGATGGCCGCC.
82 GTAAGGCGCCAGCTGCGGTGGCAGAGAAAAA 
22 GGCCCGGACCTGCTCCGGAAGCCCCAGCCCAG
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RESULT 6 AL139246 rocus.

DEFINITION

SOURCE ORGANISM KEYWORDS VERSION ACCESSION

REFERENCE AUTHORS

TITLE JOURNAL

Direct Submission

COMMENT

AL139246 DNA linear PR: Human DNA sequence from clone RP3-395M20 on chromosome 1p36.11-36.33, complete sequence. PRI 16-NOV-2001

HTG AL139246.20 GI:16973797

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 154736) Moore,M. Homo sapiens

AL Submitted (16-NOV-2001) Wellcome Trust Sanger Institute, Hinxton, Cambridgeshire, CB10 15A, UK. E-mail enquiries: humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk On Nov 17, 2001 this sequence version replaced gi:15912352.

During sequence assembly data is compared from overlapping clones. Where differences are found these are annotated as variations together with a note of the overlapping clone name. Note that the variation annotation may not be found in the sequence submission corresponding to the overlapping clone, as we submit sequences with only a small overlap as described above.

This sequence was finished as follows unless otherwise noted: all regions were either double-stranded or sequenced with an alternate chemistry or covered by high quality data (i.e., phred quality >= 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by at least one plasmid subclone or more than one M13 subclone; and the assembly was confirmed by restriction digest. The following abbreviations are used to associate primary accession numbers given in the feature table with their source databases: Em:, EMBL; Sw:, SWISSPROT; TT:, TREMBL; Wp:, WORMPEP; Information on the WORMPEP

http://www.sanger.ac.uk/Projects/C elegans/wormpep This sequence was generated from part of bacterial clone contigs of human chromosome 1, constructed by the Sanger Centre Chromosome 1 Mapping Group. Further information can be found at http://www.sanger.ac.uk/HGP/Chr1

RP3-395M20 is from the library RPCI-3 constructed by the group of Pieter de Jong. For further details see //www.chori.org/bacpac/home.htm

VECTOR: PCYPAC2

В S 뭐 5 Ъ Ś 밁 Ş

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This sequence is the entire insert of clone RP3-395M20 The true left end of clone RP4-755G5 is at 90075 in this sequence. The true right end of clone RP4-755G5 is at 90078 in this sequence. The true right end of clone RP11-361M21 is at 135438 in this sequence. The true

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FEATURES
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                                                                                                                                                                                                                     Straubberg,R.
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Direct Submission

Submitted (19-DEC-2001) National Institutes of Health, Mammalian Submitted (19-DEC-2001) Cancer Genomics Office, National Cancer Gene Collection (MGC), Cancer Genomics Office, National 
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1 (bases 1 to 2480)
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: David N.
                                                                                               NIH-MGC Project URL: http://mgc.nci.nih.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
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GCAGCAGGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCCACCTGGGAGGAGA
                                                          GCAGCAGGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCACCTGGGAGGAGA 2880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCGAGCCAAGTTCAGCGCCAACGGTGGCTGCGGCTACGTACTCAAGCCTGGGTGCATGT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCGAGCCAAGTTCAGCGCCAACGGTGGCTGGGCTACGTACTCAAGCCTGGGTGCATGT 2640
                                                                                                                          ACCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGTGGACT
                                                                                                                                                                                    ACCGTGGGGAGATCATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGTGGACT 2820
                                                                                                                                                                                                                                                                                              TGGTGCTCCGGATCATCAGTGGCCAGCAGCTTCCCAAGCCGCCGACTCCATGCTGGGGG 2760
                                                                                                                                                                                                                                                                                                                                                                        GCCAGGGCGTGTTCAACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAAGCAGC 180
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This clone was selected for full length sequencing because it passed the following selection criteria: matched mRNA gi: 7662133.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Web site: http://www.hgsc.bcm.tmc.edu/cdna/Contact: amg@bcm.tmc.edu
Guntaratne, P.H., Garcia, A.M., Lu, X., Hulyk, S.W., Hale, S.M., Yoon, V.S., Kowis, C.R., Lawrence, S., Martin, R.G., Muzny, D.M. Richards, S., Gibbs, R.A.
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PSVSQRILRRTASAPTKSQKPGRRGFÞELVLGTRDTGSKGVADDVVÞPGÞGÞAÞEAÞA
QEGÞGSGSÞRDTRÞLSTQRÞLÞFLCSLETIAEEÞAÞGÞGÞÞÞÞAAVÞTSSSQGRÞÞYÞ
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/protein_id="AAH19679.1"
/db_xref="G1:18044628"
/translation="AGCOMVALMYQSEGRMLQLMRAKFSANGGCGYVLKPGCMCQGVF
NPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSR
ROTRVVDDNGFNPTWEETLVFMVHMPEIALVRFLVMDHDPJGRDFJGQRTLAFSSMMP
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/db_xref="taxon:9606"
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100.0%; Pred. No. 0;
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This sequence was finished as follows unless otherwise noted: all regions were either double-stranded or sequenced with an alternate chemistry or covered by high quality data (i.e., phred quality >= 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by at least one plasmid subclone or more than one M13 subclone; and the assembly was confirmed by restriction digest. The following abservations are used to associate primary accession numbers giver in the feature table with their source databases: Em:, EMBL; Sw:, SWISSPROT; Tr:, TREMBL; Wp:, WORMPEP; Information on the WORMPEP
                                                                                                                                                                                                                                                             Where differences are found these are annotated as variations together with a note of the overlapping clone anne. Note that the variation annotation may not be found in the sequence submission corresponding to the overlapping clone, as we submit sequences with only a small overlap as described above.
                                                                                                                                                                                                                                                                                                                                                                                      humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk On Apr 29, 2002 this sequence version replaced gi:18476648. During sequence assembly data is compared from overlapping clones.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cambridgeshire, CB10
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Local Similarity 99.7%; Pred. No. 2e-122;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              database can be found at http://www.sanger.ac.uk/Projects/C elegans/wormpep This sequence was generated from part of bacterial clone contigs of human chromosome 1, constructed by the Sanger Centre Chromosome 1 Mapping Group. Further information can be found at http://www.sanger.ac.uk/HGP/Chr1
RP4-740C4 is from the library RPCI-4 constructed by the group of Pieter de Jong. For further details see
                                                                                                                                                      Gregory,S., Atkinson,A.L., Evans,R.S., Gilson,C.J., Jones,C.A., McDonald,L., Phillips,K.J., Huckle,E., Taylor,R. and Hunt,S.E. Direct Submission
Submitted (18-SEP-2000) E-mail contact: humquery@sanger.ac.uk
Marker stdJ776M4T7 (Primer A: TAATCAGAGACAGGCAGGGG; Primer B:
TGATGTCCTGGCAGCTCTC; amplimer size: 138 bp) is from sequence
generated from the T7 end of PAC 776M4 is part of the
bacterial clone contigs constructed by the Chromosome 1 Mapping
Group. (http://www.sanger.ac.uk/HGP/Chrl/).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HS776M4T 245 bp DNA linear STS 18-SEP-2000 hspiens STS from genomic clone 776M4, sequence tagged site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        http://www.chori.org/bacpac/home.htm
VECTOR: pCYPAC2.
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                                                                                                                                                                                                                                                 364 CACTACTTCATCACCTCGTCCCACACACCTACCTCGTGGGTGACCAGCTCATGTCCCAG 305
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (04-SEP-2000) Tolstonog G.V., Max-Planck-Institut Zellbiologie, Rosenhof, Ladenburg/Heidelberg 68526, Germany Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 (bases 1 to 976)
Tolstonog, G.V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Isolation of SDS-Stable Complexes of the Intermediate Filament Protein Vimentin with Repetitive, Mobile, Nuclear Matrix Attachment Region, and Mitochondrial DNA Sequence Elements from Cultured Mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Tolstonog, G.V., Mothes, E., Shoeman, R.L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Direct Submission
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                                                   Mus musculus chromosome 4 clone RP23-173K14, *** PROGRESS ***, 24 unordered pieces.
               AL831788.2 GI:21748357
HTG; HTGS_PHASE1
                                                                                        AL831788
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/function="sequence bound by vimentin in living cells"
/ 274 c 283 g 215 t
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/db xref="taxon:10090"
/cell_type="immortalized mouse embryo fibroblasts"
/clone_lib="MEF40VIM8"
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                                                                                                                                                                                                                                                                                                                                      1.3%; Score 62; DB 10;
100.0%; Pred. No. 5.5e-22;
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DNA fragment MEF40VIM8.
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Insert size: 206960; 2.0% error; agarose-fp
Quality coverage: 4.43x in Q20 bases; sum-of-contigs Quality
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (12-JUL-2002) Wellcome Trust Sanger Institute, Hinxton, Cambridgeshire, CBLO 1SA, UK. E-mail enquiries: humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk On Jul 14, 2002 this sequence version replaced gi:21727735.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               coverage: 4.41x in Q20 bases; agarose-fp
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                                                                                                                                                                                                                                                                                                                                                                                                                               56727 56826: gap of 100 bp 5
5827 69122: contig of 12296 bp in length 69123 69222: gap of 100 bp 6
6923 86407: contig of 17185 bp in length 86408 86507: gap of 100 bp 86508 89182: contig of 2675 bp in length 89183 89282: gap of 100 bp 89283 94578: contig of 5296 bp in length 94679 94678: gap of 100 bp 94679 94713: gap of 100 bp 94679 97024 77123: gap of 100 bp 97024 77123: gap 07024 77123: g
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103689 103788:
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5688 13115; contig of 7428 bp in length
13116 13215; gap of 100 bp
13216 13247; contig of 1013 bp in length
23348 23447; gap of 1013 bp in length
23348 23447; gap of 100 bp
23448 29152; contig of 5705 bp in length
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153 33546: contig of 4294 bp in length
147 336489: contig of 4943 bp in length
100 bp
147 38589: contig of 4943 bp in length
90 38689: gap of 100 bp
100 bp
172 47571: contig of 8782 bp in length
172 15732 p of 100 bp
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                      145630:
                                                      120901: contig of 6217 by 1001: gap of 100 bp
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             contig of
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contig of 9155 bp in length
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145731 148965; contig of 3235 bp in length
148966 149065; gap of 100 bp
149066 161171; contig of 12106 bp in length
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                                                                                                                                                                      /note="assembly_fragment:00848
fragment_chain:3"
11894. .114884
/note="assembly_fragment:00454
fragment_chain:4"
114685. .120901
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fragment_chain:4"
121002. .145630
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106864.
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fragment_chain:3"
103789. _106763
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note="assembly_fragment:00028
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ragment_chain:3"
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Eragment_chain:3"
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ragment_chain:2"
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ragment_chain:2"
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ragment_chain:2"
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ragment_chain:2"
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ragment_chain:2"
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fragment_chain:1"
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/chromosome="4"
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ragment_chain:1"
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ragment_chain:1"
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ragment_chain:1"
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REFERENCE
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AUTHORS
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RS Birren, B., Linton, L., Nusbaum, C., Lander, E., Ali, A., Allen, N., Anderson, S., Barna, N., Bastien, V., Bloom, T., Boguslavkiy, L., Bouckron, S., Barna, N., Bastien, V., Bloom, T., Boguslavkiy, L., Bouckron, S., Barna, N., Camarata, J., Campopiano, A., Chang, J., Boukhgalter, B., Brown, A., Camarata, J., Campopiano, A., Chang, J., Chargro, B., Choepel, Y., Colangelo, M., Collins, S., Collymore, A., Cooke, P., DeArellano, K., Dewar, K., Diaz, J.S., Dodge, S., Cook, A., Cooke, P., Pearellano, K., Dewar, K., Diaz, J.S., Dodge, S., Gord, S., Goyette, M., Garbam, J., Gardyna, S., Ginde, S., Gord, S., Goyette, M., Garbam, L., Grand-Pierre, N., Hagos, B., Horton, L., Hulme, W., Iliev, I., Johnson, R., Jones, C., Kamat, A., Karatas, A., Kells, C., LaRocque, K., Lamazares, R., Landers, T., Lehoczky, J., Levine, R., Lindblad, Toh, K., Liu, G., MacLean, C., Macdonald, P., Major, J., Marquis, N., Matthews, C., MacLean, C., Macdonald, P., Major, J., Marquis, N., Matthews, C., McCarthy, M., McEwan, P., McKernan, K., Meldrim, J., Meneus, L., McCarthy, M., McEwan, P., McKernan, K., Meldrim, J., Meneus, L., McCarthy, M., McEwan, P., McKernan, K., Meldrim, J., Meneus, L., Norbu, C., Naron, C., Nicol, R., Norbu, C., Naron, R., McLen, J., Peterson, K., Phunkhang, P., Pierre, N., Pollara, V., Roman, J., Rosetti, M., Roy, A., Santos, R., Schauer, S., Schupback, R., Strauss, N., Storaparata, N., Storapovic, N., Strauss, N., Subramanian, A., Talanas, J., Tesfaye, S., Theodore, J., Topham, K., Travers, M., Tavisi, N., Trigilio, J., Vassiliev, H., Zimmer, A. and Zody, M.

Direct Submission
AL Submitted (06-May-2002) Whitehead Institute/MIT Center for Genome Submitted (06-May-2002) Whitehead Institute/MIT Center for Genome
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 (bases 1 to 67142)
Birren,B., Linton,L., Nusbaum,C. and Lander,E.
Mus musculus, clone RP24-553K14
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Mus musculus clone RP24-553K14, LOW-PASS SEQUENCE SAMPLING
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fragment_chain:6"
45591 a 48780 c 48760 g 45059 t
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fragment_chain:5"
149066. 161171
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fragment_chain:6"
187254. 190494
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fragment_chain:5"
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145731. .148965
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Pred. No. 3.7e-22;
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All repeats were identified using RepeatMasker: Smit, A.F.A. & Green, P. (1996-1997)
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http://ftp.genome.washington.edu/RM/RepeatMasker.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NOTE: This record contains 82 individual sequencing reads that have not been assembled into contigs. Runs of N are used to separate the reads and the order in which they appear is completely arbitrary. Low-pass sequence sampling is useful for identifying clones that may be gene-rich and allows
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 overlap relationships among clones to be deduced. However, it should not be assumed that this clone will be sequenced to completion. In the event that
                                                                                                                                                                                                                                                                                                                                       10549 11268: contig of 720 bp in length 11269 11368: gap of 100 bp 11369 12087: contig of 719 bp in length 12088 12187: gap of 100 bp 12188 12187: contig of 719 bp in length 12188 12931: contig of 744 bp in length 12932 13031: gap of 100 bp 13032 13766
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Center project name: L26051
Center clone name: 553_K_14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Contact: sequence submissions@genome.wi.mit.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Center: Whitehead Institute/ MIT Center for Genome Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Web site: http://www-seq.wi.mit.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Center code: WIBR
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8932 9631: contig of 700 bp in length 9632 9731: gap of 100 bp 9732 10448: contig of 717 bp in lenath 0449 10548: car of
18652 18751: gap of 100 bp

18752 19477: contig of 726 bp in length

19778 19577: gap of 100 bp

19578 20282: contig of 705 bp in length

20283 20382: gap of 100 bp
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                                                                                                                                                                                                                                                         14577 14676: gap of 100 bp 14677 15410: contig of 734 bp
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2456 3135: co
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1625 2355: contig of 731 bp in length
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4730: cor
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                                                                                                           17053: contig of 705 bp i
17053: contig of 705 bp i
17153: gap of 100 bp
17836: contig of 683 bp ii
7936: gap of 100 km
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6372: con
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48: gap of 100 bp
17053: contig of 7
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                                                                                                                                                                                                                                                                                              80: gap of 100 bp
14576: contig of 696 bp in length
                                                                                                  18651: contig of 715 bp
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38361 38460: gap of 100 bp
38461 39198: contig of 738 bp in length
39199 39298: gap of 100 bp
40039 40138: gap of 100 bp
40139 40138: gap of 100 bp
40139 40189: contig of 740 bp in length
4083 40982: gap of 100 bp
41708 41807: gap of 100 bp
41808 42513: contig of 725 bp in length
42514 42613: gap of 100 bp
42514 42613: gap of 100 bp
43326 43425: gap of 100 bp
43326 43425: gap of 100 bp
41808 44133: contig of 712 bp in length
43326 43425: gap of 100 bp
41808 4513: gap of 100 bp
41954 45618: contig of 732 bp in length
45055 4554: gap of 100 bp
46719 47455: contig of 732 bp in length
45787 45886: gap of 100 bp
46719 47455: contig of 732 bp in length
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47586 4755: gap of 100 bp
47586 4755: gap of 100 bp
48297 48396: gap of 100 bp
48297 48396: gap of 100 bp
49126 49225: gap of 100 bp
49226 49274: contig of 739 bp in length
48297 48396: gap of 100 bp
49226 49274: contig of 749 bp in length
49975 50074: gap of 100 bp
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32740 33484: contrig of 745 bp in length
33485 33584: gap of 100 bp
33885 34322: contrig of 738 bp in length
3423 34422: gap of 100 bp
3423 35120: contrig of 698 bp in length
35121 35220: gap of 100 bp
35221 35918: contrig of 698 bp in length
35919 36018: gap of 100 bp
36019 36720: contrig of 698 bp in length
3619 36720: contrig of 702 bp in length
36721 36820: gap of 100 bp
36721 36820: gap of 100 bp
36721 36820: gap of 100 bp
37540 37539: contrig of 719 bp in length
37540 37639: gap of 100 bp
37640 38360: contrig of 721 bp in length
38361 38460: gap of 100 bp
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30277 31015: contig of 739 bp in length
31016 31115: gap of 100 bp
31116 31844: contig of 729 bp in length
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28610 29341: contig of 732 bp in length
29342 29441: gap of 100 bp
29442 30176: contig of 735 bp in length
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21126 21225: gap of 100 bp
2126 21274: contig of 749 bp in length
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949: gap of 725 bp in length
774: gap of 100 bp
28509: contig of 735 bp in length
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26849: contig of 720 bp in length
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22783: contig of 709 bp
83: gap of 100 bp
23584: contig of 701 bp
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     AC023583
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Submitted (16-MAY-2001) Microbiology and Tumorbiology Centre,
Submitted (16-MAY-2001) Microbiology and Tumorbiology Centre,
Sarolinska Institute, Theorells vag, 3, Box 280, Stockholm 171 77,
                                                                                                                                                                                                                                                                                                                                                                                  Sweden
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (Dases 1 to 621)

Kutsenko,A.S., Gizatullin,R.Z., Al-Amin,A.N., Wang,F., Kvasha,S.M. Podowski,R.M., Matusikkin,Y.G., Gyanchandani,A., Muravenko,O.V., Tevitebry V. G. Gyanchandani,A., Muravenko,O.V., Tevitebry V. G. Gyanchandani,A., Muravenko,O.V.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Zabarovsky, E.R
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of the human
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53342 54030: contig of 689 bp
54031 54130: gap of 100 bp
54131 54832: contig of 702 bp
54833 54932: gap of 100 bp
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tive 0; Mismatches
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CE 3 (bases 1 to 176291)

RS Birren, B., Linton, L., Nusbaum, C., Lander, E., Abraham, H., Allen, N., Anderson, S., Baldwin, J., Barna, N., Bastien, V., Beda, F., Boguslavkiy, L., Boukhgalter, B., Brown, A., Burkett, G., Campopiano, A., Coske, P., De, R., Colangelo, M., Collins, S., Collymore, A., Cooke, P., De, R., Colangelo, M., Collins, S., Collymore, A., Cooke, P., De, M., Rerreira, P., FitzHugh, W., Gage, D., Bodge, S., Domino, M., Doyle, M., Ferreira, P., FitzHugh, W., Gage, D., Galagan, J., Gardyna, S., Ginde, S., Goyette, M., Graham, L., Grand-Pierre, N., Grant, G., Hagos, B., Heaford, A., Horton, L., Grand-Pierre, N., Grant, G., Liev, I., Johnson, R., Jones, C., Kann, L., Karatas, A., Klein, J., Larocque, K., Lamazares, R., Landers, T., Lehoczky, J., Levine, R., Lieu, C., Liu, G., Locke, K., Macdonald, P., Marquis, N., McHernhy, M., McEwan, P., McGurk, A., McKernan, K., McPheeters, R., McCarthy, M., McEwan, P., McGurk, A., McKernan, K., McPheeters, R., Murphy, T., Naylor, J., Norman, C. H., O'Connor, T., O'Donnell, P., O'Santi, D., O'Connor, T., O'Donnell, P., O'Isani, C., Pollara, V., Raymond, C., Riley, R., Rogov, P., Rothman, D., Pestange, S., Trigilio, J., Tesfaye, S., Theodore, J., Tirrell, A., Travers, M., Trigilio, J., Vasille, R., Vo, A., Wilson, B., Wu, X., Wyman, D., Ye, W.J., Vong, G., Zainoun, J., Zimmer, A. and Zody, M.
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Anderson,S., Baldwin,J., Barna,N., Beda,F., Boguslavkiy,
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                       All repeats were identified using RepeatMasker:
Smit, A.F.A. & Green, P. (1996-1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Direct Submission
                                                                                                                                                                                                                                 http://ftp.genome.washington.edu/RM/RepeatMasker.html
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                                     Contact: sequence_submissions@genome.wi.mit.edu
                                                                       Web site: http://www-seq.wi.mit.edu
                                                                                                                Center code: WIBR
                                                                                                                                                      Center: Whitehead Institute/ MIT Center for Genome Research
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                                                                                                                                                                                                                                                                                                                                                      (24-AUG-2002) Whitehead Institute/MIT Center for Genome 320 Charles Street, Cambridge, MA 02141, USA 2000 this sequence version replaced gi:6978295.
Project Information
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arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29830 29929: gap of 100 bp in
29930 33977; contig of 4048 bp in
33978 34077: gap of 100 bp in
34078 3757; contig of 3680 bp in
37758 37857; gap of 100 bp
37858 42751; contig of 4894 bp in
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Center clone name: 294_I_2
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11140 1286
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70106
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21336 23647: contig of 2312 i
23648 23747: gap of 100 bp
23648 23747: contig of 3028 i
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18366 21235: contig of 2870 k
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16352 18265: contig of 1914 l
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14814 16251: contig of 1438 k
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12970 14713: contig of 1744 l
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9631 9730: gap of 100 bp
9731 11039: contig of 1309 bm
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5199: contig of 1292
5200 5299: gap of 100
5300 6456
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                                                                                              64725: gap of 100 by 70005: contig of 5280 70105: gap of 100 by 70105
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7725: gap ....
70005: contig of 100 bp
0105: gap of 100 bp in ler
74085: contig of 3980 bp in ler
100 bp
100 bp in ler
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8373: contig of 1817 bp in length
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2043: contig of 143
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RESULT 15
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Rattus norvegicus.
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138257 147577: contig of 9321 bp in length
147578 147677: gap of 100 bp
147678 161828: contig of 14151 bp in length
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (24-JUL-2002) Human Genome Sequencing Center, Depa of Molecular and Human Genetics, Baylor College of Medicine, Baylor Plaza, Houston, TX 77030, USA On Jul 19, 2002 this sequence version replaced gi:20976415.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (18-MAY-2002) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Direct Submission
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Direct Submission
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Assembly program: Phrap; version 0.990329
Consensus quality: 15937 bases at least Q40
Consensus quality: 17859 bases at least Q30
                                                                                                                   Sequencing vector: Plasmid;
Chemistry: Dye-terminator Big Dye: 100% of reads
                                                                                                                                                                                                                                           Center project name: GYMJ Center clone name: CH230-33J4
                                                                                                                                                                                                                                                                                                                                                                                                                                         Center: Baylor College of Medicine Center code: BCM
                                                                                                                                                                                                                                                                                                                                                              Contact: hgsc-help@bcm.tmc.edu
                                                                                                                                                                                                                                                                                                                                                                                                    Web site: http://www.hgsc.bcm.tmc.edu/
                                                                                                                                                                                                                                                                                                                     ----- Project Information
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NOTE: Estimated insert size may differ from sequence length (see http://www.hgsc.bcm.tmc.edu/docs/Genbank draft data.html).

NOTE: This is a 'working draft' sequence. It currently consists of 50 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

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	AAC68339	21	3809	0.4	20	42	
Human insulin rece	ABA08946	22	3806	0.4	20	41	
Human lipid metabo	ABA94695	24	3594	0.4	20	40	
Human DNA359-1207	ABK28570	24	3441	0.4	20	39	
cDNA encoding huma	ABK40258	24	3441	0.4	20	38 8	
Human PRO243 cDNA.	AAA49552	21	3441	0.4	20	37	
	AAX80044	20	3441	0.4	20	36	
Human cDNA sequenc	AAH16211	22	3263	0.4	20	35	
Mouse melatonin la	AAV04644	19	2796	0.4	20	3 <b>4</b>	വ
Novel human phosph	AAD17567	22	2709		20	ω u	
_	ABK10063	24	2629	0.4	20	32	
Rat sequence diffe	ABK63432	24	2573		20	31	
Human phospholipas	AAD23722	24	2540	0.4	20	30	
Human lipid metabo	ABL60544	24	2520	0.4	20	29	
Human phospholipas	AAD23723	24	2462	0.4	20	28	
Mouse melatonin la	ABA94880	24	2377	0.4	20	27	ი
Human phospholipas	AAD23721	24	2289	0.4	20	26	
Novel human phosph	AAD17564	22	2289	0.4	20	25	
	AAZ27942	20	1856	0.4	20	24	
	AAZ27941	20	1856	0.4	20	23	Ω
	AAD19219	22	1840	0.4	20	22	
	AAS54350	23	1530	0.4	20	21	
love	AAS91014	23	1245	0.4	20	20	n
High-affinity mela	AAT09951	17	S.	0.4	20	19	Ω
Human Stat6 (signa	AAD24359	24	9	0.4	20	18	
σ	AAI93967	22	7	0.4	20	17	
DNA encoding novel	AAS80837	23	642	0.4	20	16	a
Lung cancer relate	ABL66602	24	426		20	15	n
Human benign prost	ABK64733	24	426		20	14	ი
	AAS91012	23	324		20	13	
iffer	ABK84127	24	51	0.5	21	12	
Human cDNA differe	ABK84532	24			21	11	
diff	ABK84021	24	4242		21	10	

## ALIGNMENTS

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ABA96005
ID ABA96005;
XX Human lipid metabolism enzyme-5; cytostatic; neuroprotective; cardiovascular; gene therapy; cancer; neurological disorder; autoimmune disorder; carzinovascular disorder; autoimmune disorder; carzinovascular disorder; ss.
XX ABA96005;
XX ABA96005;
XX ABA96005; Lipid metabolism enzyme-5; cytostatic; neuroprotective; cardiovascular disorder; gene therapy; cancer; neurological disorder; autoimmune disorder; kW inflammatory disorder; cardiovascular disorder; ss.
XX ABA96005;
XX ABA96005; Lipid metabolism enzyme-5; cytostatic; neuroprotective; cardiovascular disorder; pene therapy; cancer; neurological disorder; autoimmune disorder; kW inflammatory disorder; cardiovascular disorder; ss.
XX ABA96005; ABA96005; Lipid metabolism enzyme-5; cytostatic; neuroprotective; cardiovascular disorder; pene therapy; cancer; pene therapy; pene therapy;
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invention have cytostatic, neuroprotective, immunosuppressive,

canti-inflammatory, and cardiovascular activity. The polypeptides and

compounds have a use in gene therapy and enzyme therapy. The lipid

compounds have a use in gene therapy and enzyme therapy. The lipid

compounds have a use in gene therapy and enzyme therapy. The lipid

compounds have a use in gene therapy and enzyme therapy. The lipid

compounds are useful in the diagnosis, treatment and prevention

conficulty compounds on the expression of nucleic acid and amino acid

conficulty energy and in the assessment of the effects of

compounds that modulate the activity of LMEs may also be used to screen

conficulty gene expression in biopsied tissues in which expression of LME

compounds that modulate the activity of LME. Polynucleotides encoding

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 4237 BP; 816 A; 1327 C; 1370 G; 724 T; 0 other;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New lipid metabolism enzymes useful for diagnosing, treating and preventing cancer, neurological disorders, autoimmune/inflammatory disorders, and cardiovascular disorders -
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Thornton M;
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bung J, Lal
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P, Kearney L,
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ВP

Human lipid metabolism molecule (LMM) cDNA (ID: 2965233CB1).

23-APR-2002

(first entry)

Lipid metabolism molecule; LMM; cytostatic; nootropic; neuroprotectiv anticonvulsant; immunosuppressive; anti-inflammatory; dermatological; cardiovascular; antiHIV; antiemetic; antiallergic; hypertensive; huma cancer; gene therapy; protein therapy; ss. neuroprotective;

Homo sapiens

Location/Qualifiers 321..2189

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14-JUL-2000; 2000US-218233P.
21-JUL-2000; 2000US-220046P.
26-JUL-2000; 2000US-220739P.
04-AUG-2000; 2000US-222824P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    and assess the toxicity of test compounds. The LMM polypetides, medularcors and antibodies are specifically useful for diagnosing, treating or preventing cancers (e.g. adenocarcinoma, leukemia, lymphoma, melanoma or sarcoma), neurological disorders (e.g. epilepsy, stroke, cerebral neoplasms, Alzheimer's disease or Pick's disease), autoimmune/inflammatory disorders (e.g. ANDS, Addison's disease, allergies, asthma, or atherosclerosis), gastrointestinal disorders (e.g. dysphagia, peptide esophagitis, gastritis, gastric carcinoma, anorexia or nausea), skin disorders (e.g. dermatitis, eczema, or scleroderma), and cardiovascular disorders (e.g. hypertension, arterial dissections, vascular tumours, or thromboliveis or hypertension, arterial dissections, vascular tumours, or thromboliveis or hypertension, arterial dissections, vascular tumours, or
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 2243 BP; 499 A; 678 C; 691 G; 375 T; 0 other;
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52 TGGACGGCCGGCCCCAGCTGGTGATCCCAGCCAGTCCCAGCTTTCAGTTGCTGCCCCCAC 411
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                                                                   AAGGGACACCGGGGGCCCTGGGAGCAGAGAGACCTCAGAGCAGCCTCCTCCTGCCTCCTG 351
                                                                                                                                                 GGGCTGGGCACCACCAGGCTTGGGTGTGATGCGCTGCTGGCCCAGGCTACACCCCGAC 291
                                                                                                                                                                                                                                     GACCCCATGCCTGGGGGTGAGCCTGGAGCCAGGGCAGTGCGGTGAGAGGCTCCGGAGAGA 231
                                                                                                                                                                                                                                                                                                                                                                   2162;
                                          AAGGGACACCGGGGGCCCCGGGAGCAGAGAGACCTCAGAGCAGCCTCCTCCTCCTCCTC
                                                                                                                       GGGCTGGGCACCACCAGGCTTGGGTGTGATGCGCTGCTGGCCCAGGCTACACCCCGAC 180
                                                                                                                                                                                                       GACCCCATGCCTGGGGGTGAGCCTGGAGCCAGGGCAGTGCGGTGAGAGGCTCCGGAGAGA
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Gandhi AR, 1
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Thi AR, Walia NK, Khan FA, Lu Y, Yao
Patterson C, Lal P, Ramkumar J, Ngu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The present sequence represents a human LMM polynucleotide
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/product= "LMM"
                                                                                                                                                                                                                                                                                                                                                                                      45.6%; Score 2112;
100.0%; Pred. No. 0;
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Yao MG, Hafalia AJA;
Nguyen DB, Baugn MR;
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CAACCCTGAGCACCACCATGTGCACC
1372 TCAACCCTGAGC
OY 1312 AGGGGCTGCTGGGCATTGATGGCTTCACCAACTACACCAAGGAGGDG
Qy 1252 CCCTCGAGAGCTGCCAGGACATCATCGAGCAGTTTGAGCCA
Qy 1192 ACCTGGATGCCGCCAGCCTGCAGGCGCTTCCTGCAGGTGGAGC
OY 1132 TGATGTCCACCCGCCGGGACCTCTACCTGCTCATGCTGAC
QY 1072 CGGACACGGATGACCACCAAGGGACGCTGGGTTTTGAAG
OY 1012 TGCTGCACAAGCTCAACGTGAACCTGCCCCGGCAGAGGGT
Qy 952 CGTTTGACGAGGCCGACAAGAACGGGGATGGCAGCCTGA
Qy 892 TCAGCGACGAGGACAGCCTGGCTCGCCGCCAGCGCACC
Oy 832 CCACCAGCAGCAGGTGGCGCGCACCTGGGTCACTGGC
Oy 772 ACCCCAACTGCTGCTTCAGCATCTACCACGGCAGCCAC
Qy         712 AGGAGGTGAGTGAGGGGCGGCAGTCGGAGGTCTTCCAG
Qy 652 GCATCCGCTGGAGGCCCTCACGCAAGAACGAGAAGGCC
Qy 592 AGCTGCGTGGCGGCTCCAAGGGCCTGGTCCGCTTCTAC
Oy 532 ACATTCTGCCCGTGGTGGAGCGGTGCATGGGTGCCAT
Qy 472 CTCTTCCGCCTGAGGACCCAGGGCCGGATCCGGAGAG
Qy 412 CGACAGTCCTCAGTCCCTCCATGATGGCTCCCCCGAC
Db 241 TGGACGGCCGGCCCCAGCTGGTGATCCCAGCCAGTCCC

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Human; lipid metabolism enzyme; LMM-6; immune system disorder; neurological disorder; developmental disorder; cancer; nootrop cell proliferative disorder; immunomodulator; neuroprotective; cytostatic; gene; ss.
                                                                                                                05-JUN-2002
                                                                                                                                                                             ABK12390 standard; cDNA; 6551 BP
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                                                                                                                (first entry)
                                                                                human lipid metabolism enzyme, LMM-6
                                     cancer; nootropic;
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Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                   of LMM, particularly immune system disorders (e.g. acquired immunodeficiency syndrome (AIDS), thymic hypoplasia, anaemia, asthma or Crohn's disease), neurological disorders (e.g. epilepsy, Huntington's disease, dementia or Parkinson's disease), developmental disorders (e.g. Down's syndrome) or cell proliferative disorders (e.g. cancers including adenocarcinoma, leukaemia, lymphoma, melanoma, myeloma or sarcoma). The present sequence encodes for human LMM-6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present invention relates to the isolation of human lipid metabolism enzymes (LMM) designated LMM-1 to LMM-6, and the polynucleotide sequences encoding them. The LMM polypeptides, polynucleotides, agonists and antagonists are useful for diagnosing, polynucleotides, and the
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                                                                                                                                                                                                                                                                                     New lipid metabolism enzymes, useful for diagnosing, treating or preventing immune system disorders (e.g. Crohn's disease), neurological disorders (e.g. Parkinson's disease), or cell proliferative disorders
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08-SEP-2000; 2000US-231370P
15-SEP-2000; 2000US-233212P
29-SEP-2000; 2000US-236885P
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CAAGTCCGTGGCCACCCACGACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGTC
                                                                GACCCGGCAGAAGAACCATGAAGCTGTCCCGGGCCCTCTCTGACCTGGTGAAGTACAC
                                                                                       GACCCGGCAGAAGAAGACCATGAAGCTGTCCCGGGCCCTCTCTGACCTGGTGAAGTACAC
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                                                                                                                                                                                                                                                                                                                                                      Similarity
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/product= "LMM-6"
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ing L, Tribouley CM,
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Pred. No. 0;
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M, Das D,
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The present invention describes oligonucleotide libraries for detecting messenger RNAs that populate a (sub-)transcriptome, where the (sub-)transcriptome comprises messenger RNAs transcribed from multiple

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                                                                                                                                                                                                                                                                                                                                                                                                                                           (COMP-) COMPUGEN INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAGTGCCTTGTTTGCTCAAAAGCTGGAGGAGATCAGGAGTAAATCCCCCATGTTCTCCGC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGGATGGCCGCCACATGCATGAAGTGTGTGGTGGGATCCTGCGCCGGCGTGAACACCCG
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                                                                                                                                                                                                                                                                                                                                                                              Wasserman A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                              Mintz E,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ΒP
                                                                                                                                                                                                                                                                                                                                                                              Mintz L,
                                                                                                                                                                                                                                                                                                                                                                           Faigler
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06-SEP-2000.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EP1033401-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gene therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; 5' EST; expressed sequence tag; secreted protein; cDNA isolation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human secreted protein 5' EST, SEQ ID NO: 34834.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       06-OCT-2000
                                                The present sequence is one of a large number of 5' ESTs derived from mRNAs encoding secreted proteins. No ORF has yet been conclusively identified within the present sequence. The 5' ESTs were prepared from total human RNAs or polyA+ RNAs derived from 30 different tissues. EST
                                                                                                                                                                                                                                                                                                                                                                                                                   New nucleic acid that is a 5' expressed sequence tag (5' EST) for obtaining cDNAs and genomic DNAs that correspond to 5'ESTs and fo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21-FEB-2000; 2000EP-0200610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAC30759 standard; cDNA; 233 BP
                                                                                                                                                                                                                                                                             Claim 1; SEQ ID 34834; 71pp + CD-ROM; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Dumas Milne Edwards J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (GEST ) GENSET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26-FEB-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                        forensic,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          chromosome mapping; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-0122487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; F
tive 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1.3%;
                                                                                                                                                                                                                                                                                                                                                                             gene therapy and chromosome mapping procedures
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Duclert A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19 G; 12 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 60;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Giordano J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 24;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
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sequences usually correspond mainly to the 3'

untranslated region

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RESULT 6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       libraries. Such ESTs are not well suited for isolating cDNA sequences derived from the 5' ends of mRNAs and even in those cases where longer cDNA sequences have been obtained, the full 5' UTR is rarely included 5' ESTs are derived from mRNAs with intact 5' ends and can therefore be used to obtain full length cDNAs and genomic DNAs. 5' ESTs are also used in diagnostic, forensic, gene therapy and chromosome mapping procedures. They are used to obtain upstream regulatory sequences and to design
                                                                                                                                                                                                                                                                05-SEP-2000;
05-SEP-2000;
05-SEP-2000;
05-SEP-2000;
05-SEP-2000;
                                                                                                                      06-SEP-2000;
06-SEP-2000;
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06-SEP-2000;
06-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of the mRNA because they are often obtained from oligo-dT primed cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            fungal infection; parasitic infections; developmental disorder; breast; endocrine disorder; metabolic disorder; neurological disorder; cervix; gastrointestinal disorder; transport disorder; gene therapy; kidney; adrenal gland; bone marrow; lung; ovary; pancreas; prostate; spleen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; dithp; diagnostic and therapeutic polynucleotide; gene; ss; bone; cell proliferative disorder; cancer; tumour; autoimmune disorder; brain; inflammatory disorder; viral infection; bacterial infection; seizure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human dithp polynucleotide #38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 233 BP; 41 A; 80 C; 72 G; 33 T; 7 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            expression and secretion vectors.
                                                                                                                                                                                                                                                                                                                                                                                                                           WO200220754-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABK71572;
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                                                                  06-SEP-2000; 2000US-23086SP
06-SEP-2000; 2000US-230988P
07-SEP-2000; 2000US-230951P
                                                                                                                                                                                                                         06-SEP-2000;
06-SEP-2000;
                                                                                                                                                                                                                                                     06-SEP-2000;
                                                                                                                                                                                                                                                                                                                                       05-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                    29-AUG-2001; 2001WO-US27127.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo
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             (INCY-) INCYTE GENOMICS INC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  testis; thymus.
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                                                                                                                                                                                                                                                  2000US-229747P.
2000US-229748P.
2000US-229749P.
2000US-229750P.
2000US-229751P.
2000US-230583P.
2000US-230555P.
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                                                                                                            2000US-230598P.
2000US-230599P.
2000US-230610P.
                                                                                                                                                  2000US-230517P.
2000US-230518P.
2000US-230519P.
2000US-230595P.
2000US-230597P.
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                                       2000US-231167P
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2000US-230515P.
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The invention relates to human diagnostic and therapeutic (dithp) (CC polynucleotides and their associated polypeptides (DITHP polypeptides). CC The sequences of the invention are used in the treatment and diagnosts of CC cell proliferative disorders (e.g. atherosclerosis, cirrhosis), cancers (e.g. tumours of the adrenal gland, bone, bone marrow, brain, breast, CC cervix, kidney, lung, ovary, pancreas, prostate, skin, spleen, testis or Cthymus), autoimmune/inflammatory disorders (e.g. asthma, bronchitis, CC psoriasis, osteoporosis), viral infections, bacterial infections, fungal infections, parasitic infections, developmental disorders (e.g. anaemia, CC infections, parasitic infections, developmental disorders (e.g. anaemia, CC epilepsy), seizure disorders (e.g. cerebral palsy, spina bifida), CC endocrine disorders (e.g. thrombosis, aneurysm), metabolic disorders (e.g. obesity, diabetes), neurological disorders (e.g. stroke, colitis, lysinuria) and transport disorders (e.g. ulcerative colitis, lysinuria) and transport disorders (e.g. myotonic dystrophy, catatonia, peripheral neuropathy). Sequences CC endocrine disorders (e.g. ulcerative colitis, lysinuria) and transport disorders (e.g. myotonic dystrophy, catatonia, peripheral neuropathy). Sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
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Best |Local :
                                                                                                                                                                                                                                                                                                                                                                               Tourette syndrome; encephalitis; cytostatic; haemostatic; anaemia; mania; antiinflammatory; ophthalmalogical; dermatological; immunostimulatory; immunosuppressive; antibacterial; antipscriatic; gene therapy; autoimmune disease; Huntington's disease; meningitis; demyelinating disease; peripheral neuropathy; congenital malformation; spinal cord injury; peripheral neuropathy; ischaemia; perception; multiple sclerosis; infarction; haemorrhage; schizophrenia; dementia; depression; panic disorder; learning disability; ALS; feeding disorder; hyperproliferative disorder; sleep pattern; cardiovascular disorder; reproductive disorder; sleep pattern; cardiovascular disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human; secreted protein; immune disorder; antiallergic; antirheumatic; rheumatoid arthritis; breast neoplasia; breast cancer; antiarthritic; neurological disease; Alzheimer's disease; Parkinson's disease; trauma;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 1; Page 424-425; 686pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Lincoln SE,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein-encoding gene 12 cDNA clone HCOMM91, SEQ ID NO:22.
/product= "Human secreted protein"
/transl_except= (pos:791..793, aa:Xaa)
                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
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100.0%; Pred. No.
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tzen D, Liu TF, Yap PE, Dah
SD, Harris B, Roseberry AM;
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RESULT 8 AAQ87044/c

AAQ87044 standard; cDNA; 1365 BP

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                                  4561 TCTGCCCCCACCCACGCTTGC 4581
                                                                                                                                     Sequence 896 BP; 200 A; 213 C; 297 G; 180 T; 6 other;
                                                                                                                                                                                                                     21 genes, based on the tissues in which they are most highly expressed, and include developing products for the diagnosis or treatment of immune or autoimmune diseases e.g. AIDS (acquired immune deficiency syndrome), asthma, anaemia and rheumatoid arthritis, breast neoplasia and breast cancer, neurological diseases e.g. Alzheimer's disease, Parkinson's disease, Huntington's disease, Tourette syndrome, meningitis, demyelinating disease, peripheral neuropathies, neoplasia, trauma, congenital malformations, spinal cord injuries, toxic neuropathies induced by neurotoxins, peripheral neuropathies, multiple sclerosis, ischaemia and infarction, haemorrhages, schizophrenia, mania dementia, depression, panic disorders in feeding, sleep patterns, balance and perception, encephalitis, disorders in cardiovascular, neural/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAD33692-AAD33736 represent cDNAs corresponding to 21 human secreted protein genes, and AAE21191-AAE21235 represent the proteins they encode. AAE21236-AAE212360 represent human secreted protein fragments. The genes and their corresponding secreted proteins are useful for preventing, treating or ameliorating medical conditions, e.g., by protein or gene therapy. Pathological conditions can be diagnosed by determining the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           An isolated nucleic acid molecule (I) comprising a polynucleotide which encodes a polypeptide useful in the diagnosis and treatment of disorders e.g. immune disorders -
                                                                                                                                                                                      sensory, reproductive and digestive systems, behavioural disorders and hyperproliferative disorder. The present sequence represents a human
   823
                                                                                                                                                                                                                                                                                                                                                                                                                                                   amount of the new protein in a sample or by determining the presence of mutations in the new genes. Specific uses are described for each of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 1; Page 447; 534pp; English.
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                                                                                     Local
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                                                                                     Similarity
                                                                                                                                                                       protein-encoding cDNA of the invention.
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                                                                     Conservative
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635..814
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                                                                                   100.0%;
                                                                                                    0.5%; Score 21;
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Shi Y, Choi
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RESULT 9
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                                                                                                                                                                                                                                                                                                                                                                                                     This sequence encoding pig interleukin-10 may be expressed recombinantly in swine cord blood haematopoietic stem cells. These engineered stem cells may then be introduced into a recipient animal so that the stem cells express Ii-10. These recombinant cells may
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-NOV-1994;
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                                                                                                                                                                                                                                                    1066 CTCCGGAAGCCCCAGCCCAGG 1046
                                                                                                                                                                                                                                                                           3334 CTCCGGAAGCCCCAGCCCAGG 3354
                                                                                                                                                                                                                                                                                                                                                                               so that the stem cells express IL-10. These recombinant cells may be used in the induction of immunological tolerance, tissue transplantation and reconstitution of the immune system without
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New purified haematopoietic stem cells - isolated from swine cord blood, used in transplantation, inducing immune tolerance and immune
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                                                                                                                                                                                                                                                                                                                                              Sequence 1365 BP; 386 A; 322 C; 313 G; 344 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page 45; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      system reconstitution
                                                                                                                                                                                            AAQ85772 standard; cDNA; 1365 BP
                                                                                                                                                                                                                                                                                                                                                                    having to use broad spectrum immune suppressants.
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            WO9506657-A.
                                                                             Sus scrofa.
                                                                                                 Interleukin-10; cytokine; immune response;
                                                                                                                        Porcine interleukin-10 (IL-10) cDNA.
                                                                                                                                               09-OCT-1995
                                                                                                                                                                      AAQ85772;
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                              Location/Qualifiers
73..600
/*tag= a
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                                                                                                                                                                                                                             Human; ss; granulocytic cell; DNA chip; bacterial infection; viral infection; parasitic infection; protozoal infection; fungal infection; sterile inflammatory disease; psoriasis; rheumatoid arthritis; glomerulonephritis; asthma; thrombosis; cardiac reperfusion injury; renal reperfusion injury; ARDS; adult respiratory distress syndrome; inflammatory bowel disease adult respiratory distress syndrome; inflammatory bowel disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1066 CTCCGGAAGCCCCAGCCCAGG 1046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1365 BP; 386 A; 322 C; 313 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAQ85772 excludes the poly A tail of porcine IL-10 CDNA. At the nt level, the SQ is 82* homologous with the human IL-10 SQ, and 75* homologous with the mouse IL-10 SQ. At the AA level the porcine peptide is 74* homologous with human and 68* homologous with the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 1; Page 33-35; 47pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         graft versus host disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New DNA encoding porcine interleukin 10 used to induce immunological tolerance,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1995-115396/15.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Blancho GJF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15-AUG-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   09-MAR-1995
                                                                                                                                                                                                     Crohn's disease, ulcerative colitis; periodontal disea
granulocyte activation; chronic inflammation; allergy
                                                                                                                                                                                                                                                                                                                                                                                       ABK84021;
                                                                                                                                                                                                                                                                                                                                                                                                                ABK84021 standard; cDNA; 4242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3334 CTCCGGAAGCCCCAGCCCAGG 3354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (GEHO ) GEN
                                                                                                                                                                                                                                                                                                                              Human cDNA differentially expressed in granulocytic cells #592
                                                                                                                                                                                                                                                                                                                                                            14-AUG-2002
                                                                                                                                                                            Homo sapiens.
            Beazer-Barclay Y,
                                                                03-OCT-2000; 2000US-237189P
                                                                                            03-OCT-2001; 2001WO-US30821
                                                                                                                       11-APR-2002.
                                                                                                                                                  WO200228999-A2
                                         (GENE-) GENE LOGIC INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAR71471.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HOSPITAL CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Le GUERN CA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             93US-0114072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          94WO-US09361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0.5%; but
100.0%; Pre
           Weissman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sachs DH,
              MS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 21;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                   ΒP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
              Yamaga S,
                                                                                                                                                                                                                                   inflammatory bowel disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sykes M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 344 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB
42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and related vectors esp. for controlling
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16;
               Vockley J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1365;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Leguern CA;
                                                                                                                                                                                                                      disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                       1349
                          rheumatoid arthritis; glomerulonephritis; asthma; thrombosis; cardiac reperfusion injury; renal reperfusion injury; ARDS;
                                                                                                                                                                         Human cDNA differentially expressed in granulocytic cells #1103
                                                                                                                                                                                                                                                                                 ABK84532;
                                                                                                                                                                                                                                                                                                                             ABK84532 standard; cDNA; 4242 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1661 CCCAGTGATCCTGTCCATCGA 1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 4242 BP; 1116 A; 1097 C; 1127 G; 902 T; 0 other
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of the printed specification, but was obtained in format directly from WIPO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     response in a subject, exposure of a subject to a pathogen or sterile inflammatory disease (e.g. psoriasis, rheumatoid arthritis, glomerulonephritis, asthma, thrombosis, cardiac reperfusion injury, ARDS, adult respiratory distress syndrome, inflammatory bowel disease, Crohn's disease, ulcerative colitis, periodontal disease, also bacterial infection, viral infection, parasitic infection, protozoal infection, fungal infection and MS is useful for treating one of the above conditions. The present sequence represents a gene differentially expressed in granulocytes. Note: The sequence data for this patent did not form part of the more of the sequence data for this patent did not form part of the more of the sequence data for this patent did not form part of the more of the sequence data for this patent did not form part of the more of the conditions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        level of expression in a sample of the tissue of gene(s) from Gs, where the level of expression of the gene is indicative of inflammation;

(4) treating (M5) an inflammation (especially chronic) or in a tissue, an allergic response in a subject, exposure of a subject to a pathogen of sterile inflammatory disease, by contacting a tissue having inflammation with an agent that modulates the expression of gene(s) from Gs in the tissue. M1 is useful for detecting GCA; M2 is useful for modulating GA; M3 is useful for screening an agent capable of modulating GA; M3 is useful for screening an agent capable of modulating GCA preferably in an inflammation in a tissue, M4 is useful for GCA preferably in an inflammation (especially chronic) in a tissue, an allergic detecting an inflammation (especially chronic) in a tissue, an allergic
                                                                           fungal infection; sterile inflammatory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         chronic) in a tissue, an allergic response in a subject, exposure of a subject to a pathogen or sterile inflammatory disease using the gene expression profile; (3) detecting (M4) an inflammation (especially
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GC, where differential expression of GS is indicative of GCA. Also included are modulating (M2) GA by contacting GC with an agent that alters the expression of at least one gene in Gs; (2) screening
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Detecting granulocyte activation by detecting differential expression of genes associated with granulocyte activation, which serves as diagnostic markers that is useful for monitoring disease states and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          chronic) in a tissue, an allergic response in a subject, exposure of a subject to a pathogen or sterile inflammatory disease, by detecting the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       for an agent capable of modulating GCA or an inflammation (especially
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       the expression level to an expression level in an unactivated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA chip analysis as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to detecting (M1) granulocyte (GC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1; SEQ ID No 592; 114pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2002-435328/46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCCAGTGATCCTGTCCATCGA 1369
                                                                                                ; 88; granulocytic cell; DNA chip; bacterial infection; infection; parasitic infection; protozoal infection;
       respiratory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              by detecting the level of expression of gene(s) p analysis as given in the specification, and co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0.5%;
     syndrome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 21;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 thrombosis, cardiac reperfusion injury, renal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
reperfusion injury; ARDS; ne; inflammatory bowel dis
                                                                   protozoal infection;
y disease; psoriasis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 24; Length 4242;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 and comparing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        electronic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (2) screening
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (GS)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
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                                                                                                                                        Cc chronic) in a tissue, an allergic response in a subject, exposure of a combject to a pathogen or sterile inflammatory disease, by detecting the clevel of expression in a sample of the tissue of gene(s) from Gs, where cc level of expression of the gene is indicative of inflammation; cc an allergic response in a subject, exposure of a subject to a pathogen cc an allergic response in a subject, exposure of a subject to a pathogen cc inflammation with an agent that modulates the expression of gene(s) crom Gs in the tissue. Mi is useful for detecting a tissue having cc from Gs in the tissue. Mi is useful for detecting GCA; MZ is useful for commodulating GA; M3 is useful for screening an agent capable of modulating GCA; M3 is useful for screening an agent capable of modulating GCA; M3 is useful for screening an agent capable of modulating GCA; M3 is useful for commodulating GCA; M2 is useful for commodulating GCA; M3 is useful for subject to a pathogen or sterile conflammatory disease (e.g. psoriasis, rheumatoid arthritis, glomeratory disease, cromm's disease, cardiac repertusion injury, renal commodulation of the sequence also bacterial infection, viral infection, comparable of the above conditions. The present confliction of the sequence data for this patent did not form paranulocytes.

CC Mote: The sequence data for this patent did not form paranulocytes.
                                                                   Query Match
Best Local
                                                  Matches
1661 CCCAGTGATCCTGTCCATCGA 1681
                                                                                                                                      Sequence 4242 BP; 1116 A; 1097 C; 1127 G; 902 T; 0 other;
                                                                                                                                                                                                           of the printed specification, but format directly from WIPO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      chronic) in a tissue, an allergic response in a subject, exposure of a subject to a pathogen or sterile inflammatory disease using the gene expression profile; (3) detecting (M4) an inflammation (especially
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GC, where differential expression of Gs is indicative of GCA. Also included are modulating (M2) GA by contacting GC with an agent that alters the expression of at least one gene in Gs; (2) screening for an agent capable of modulating GCA or an inflammation (especially
                                                                                                                                                                            ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA chip analysis as
the expression level
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Detecting granulocyte activation by detecting differential expression of genes associated with granulocyte activation, which serves as diagnostic markers that is useful for monitoring disease states and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to detecting (M1) granulocyte (GC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1; SEQ ID No 1103; 114pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Beazer-Barclay Y, Weissman SM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          03-OCT-2000; 2000US-237189P
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Crohn's disease; ulcerative colitis; periodontal disease; granulocyte activation; chronic inflammation; allergy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (GENE-) GENE LOGIC INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11-APR-2002
                                                  21;
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                                                                   Similarity
                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       as given in the specification, and comparing vel to an expression level in an unactivated
                                                                   100.0%;
                                                                                           0.5%;
                                             0
                                                                   Score 21;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of expression of gene(s)
                                               Mismatches
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                                                                                                                                                                                                                                 was obtained in electronic
                                                                   DB
40;
                                                                                        24;
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                                                                                      Length 4242;
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                                        Gaps
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(M3)

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1349

CCCAGTGATCCTGTCCATCGA 1369

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RESULT 12
ABK84127
  CC GC, where differential expression of Gs is indicative of GGA.

CC Also included are modulating (M2) GA by contacting GC with an agent
CC that alters the expression of at least one gene in Gs; (2) screening (M3)
CC that alters the expression of at least one gene in Gs; (2) screening (M3)
CC for an agent capable of modulating GGA or an inflammation (especially
CC chronic) in a tissue, an allergic response in a subject, exposure of a
CC subject to a pathogen or sterile inflammatory disease using the
CC gene expression profile; (3) detecting (M4) an inflammation (especially
CC chronic) in a tissue, an allergic response in a subject, exposure of a
CC subject to a pathogen or sterile inflammatory disease, by detecting the
CC elevel of expression in a sample of the tissue of gene(s) from Gs, where
CC (4) treating (M5) an inflammation (especially chronic) or in a tissue,
CC an allergic response in a subject, exposure of a subject to a pathogen
CC or sterile inflammatory disease, by contacting at issue having
CC from Gs in the tissue. M1 is useful for detecting GGA; M2 is useful for
CC detecting an inflammation (especially chronic) in a tissue, an allergic
CC detecting an inflammation (especially chronic) in a tissue, an allergic
CC detecting an inflammation (especially chronic) in a tissue, an allergic
CC response in a subject, exposure of a subject to a pathogen or sterile
CC glomerulonephritis, asthma, thrombosis, cardiac reperfusion injury, renal
CC reperfusion injury, ABDS, adult respiratory distress syndrome.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rheumatoid arthritis; glomerulonephritis; asthma; thrombosis; cardiac reperfusion injury; renal reperfusion injury; ARDS; adult respiratory distress syndrome; inflammatory bowel disease; Crohn's disease; ulcerative colitis; periodontal disease; granulocyte activation; chronic inflammation; allergy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Detecting granulocyte activation by detecting differential expression of genes associated with granulocyte activation, which serves as diagnostic markers that is useful for monitoring disease states and
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human cDNA differentially expressed in granulocytic cells #698.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 1; SEQ ID No 698; 114pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2002-435328/46
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fungal infection; sterile inflammatory disease; psoriasis;
                reperfusion injury, ARDS, adult respiratory distress syndrome, inflammatory bowel disease, Crohn's disease, ulcerative colitis, periodontal disease; also bacterial infection, viral infection,
  parasitic infection,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (GENE-) GENE LOGIC INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A), by detecting the level of expression of gene(s) (Gs) id chip analysis as given in the specification, and comparing expression level to an expression level in an unactivated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          invention relates to detecting (M1) granulocyte (GC) activation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               granulocytic cell; DNA chip; bacterial infection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Weissman SM,
protozoal infection, fungal infection and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Yamaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ູ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vockley J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         identified
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           CC polymerase chain reaction (PCR) primers, oligomers, and for chromosome CC and gene mapping, and in recombinant production of (II). The Color of color of the c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            useful for treating one of the above conditions. The present sequence represents a gene differentially expressed in granu Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1136 CTCGTCCCACAACACCTACCT 1156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1436 CTCGTCCCACAACACCTACCT 1456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 4519 BP; 1033 A; 1314 C; 1301 G; 871 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30-MAR-2001; 2001WO-US08631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200175067-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; chromosome mapping; gene mapping; gene therapy; forensic food supplement; medical imaging; diagnostic; genetic disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA encoding novel human diagnostic protein #26816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAS91012;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAS91012 standard; cDNA; 324 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 1; SEQ ID No 26816; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             31-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to isolated polynucleotide (I) and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P-PSDB; ABG26825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  23-AUG-2000;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2001-639362/73.
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2000US-0649167.
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        AAS64197-AAS94564 represent novel human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0,
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
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RESULT 14
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Matches
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from the subject that are differentially regulated compared to normal prostate cells. (II) comprises preparing a first gene expression profile of BPH cells or BPH-like cell population, exposing the cells to the agent, preparing a second gene expression profile of the agent exposed cells, and comparing the first and second gene expression profiles. (I) is useful for diagnosing the onset or progression of BPH. (II) is useful for diagnosing the onset or progression of BPH. (II) is useful for diagnosing the onset or progression of BPH. The methods are useful to present information identifying the expression level in a tissue or cells, by comparing the expression level of genes given in the absolution in the tissue or cells to the level of expression of gene in the database, and displaying the expression levels of at least one gene in the tissue or cell sample compared to the expression level in BPH. Agents using (II) are useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to a method of diagnosing (I) the onset or progression of benign prostatic hyperplasia (BPH), or screening (II) for or identifying an agent that modulates the onset or progression of BPH. The method is based on changes in gene expression in BPH tissue isolated from patients exhibiting different clinical states of prostate hyperplasia as compared to normal prostate tissue. (I) comprises detecting the expression levels of one or more genes in prostate cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure; Page 339; 444pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Identifying drugs for and diagnosing benign prostatic hyperplasia, by detecting expression levels of one or more genes in prostate cells from patient that are differentially regulated compared to normal prostate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              detecting expression levels of one or more patient that are differentially regulated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2002-257476/30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Munger WE, Kulkarni P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        07-AUG-2000; 2000US-223323P
05-JUN-2001; 2001US-0873319
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human; benign prostatic hyperplasia; BPH; prostate cancer; gene; ds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human benign prostatic hyperplasia gene #628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2181 GGCAGCAAGCTGAAGAAGGC 2200
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           diagnostic coding sequences of the invention.

Note: The sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WQ200212440-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           18-JUN-2002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ftp.wipo.int/pub/published_pct_sequences.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA; 426 BP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 324;
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RESULT 15
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                                                                                                                                                                                                                                                                                       27-SEP-2000;
27-SEP-2000;
28-SEP-2000;
28-SEP-2000;
28-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                            25-SEP-2000;
25-SEP-2000;
25-SEP-2000;
26-SEP-2000;
26-SEP-2000;
27-SEP-2000;
27-SEP-2000;
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25-SEP-2000;
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25-SEP-2000;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       stomach; lung; prostate; pancreas; carcinoma; antitumour; cancerous;
cytostatic; gene therapy; antineoplastic; Wilm's tumour; adenocarcinoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABL66602;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    treating BPH or prostate cancer. ABK64106-ABK64860 represent human benign prostatic hyperplasia gene sequences of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-SEP-2000;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Lung cancer related gene sequence SEQ ID NO:4939.
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h; lung; prostate; pancreas; carcinoma; antitumour: cancero
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2000US-235863P.
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2000US-235720P.
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                                                                            Query Match
Best Local S
Matches 20
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03-OCT-2000;
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01-NOV-2000;
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Soppet DR,
                                       3044 CATCTTCGTGCATGTGGCTG 3063
                                                                                                                                                        Sequence 426 BP; 149 A; 78 C; 87 G; 112 T; 0 other;
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                                                                            / Match
Local Similarity 100.0%; F
  CATCTTCGTGCATGTGGCTG 215
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; 2000US-237606P.
; 2000US-237608P.
; 2000US-244867P.
; 2000US-244867P.
                                                                                0.4%; Score 20; DB 24; Length 426; 100.0%; Pred. No. 1.3e+02; ive 0; Mismatches 0; Indels
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Search completed: March 28, 2003, 22:25:35 Job time: 1104 secs

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Minimum DB seq length: 0
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Copyright (c) 1993 - 2003 Compugen Ltd.
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## SUMMARIES

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чαωգπα	Result No.
587 548 512 473 365	Score
12.7 11.8 11.0 10.2 7.9 7.3	Query Match
759 561 1016 1002 436 663	Query Match Length DB ID
12 10 12 14 12 12	88
BG472146 BE255177 BG394794 BM903836 BE908459 BG819793	Length DB ID
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599264 1M0414D	AV392820 AV392820 AA892330 EST196133	99557 UI-R-CA	621575 AV6	3736 TaE	816577 103	F877125 IL3	0147 HSB35	F804488 QV4	F944313 RC5	889403 RC6	82479 602	5796 PM3	89788 RPC	7630 603	46330 PM3	7756 BB04	61753 AV36175		32679 UI-M-CG	83947 BB2	55666 CM4	52903 BB652903	Z805180 ZM00660	24082 BB624082	Z503328	950299	71436	8868	60462	46757	99246 60	723 BE	463298 UI	1196 HS	756147	55354 60	4972 TC

## ALIGNMENTS

RESULT 1

. 1759 /organism="Homo sapiens"	source
night quality sequence stop: wor.	FEATURES
Plate: LLCM1419 row: i column: 18	
found through the I.M.A.G.E. Consortium/LLNL at: image.lini.gov	
Clone distribution: MGC clone distribution information can be	
DNA Sequencing by: Incyte Genomics, Inc.	
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)	
cDNA Library Preparation: Ling Hong/Rubin Laboratory	
Tissue Procurement: ATCC	
Email: cgapbs-r@mail.nih.gov	
Contact: Robert Strausberg, Ph.D.	COMMENT
Unpublished (1999)	JOURNAL
National Institutes of Health, Mammalian Gene Collection (MGC)	TITLE
NIH-MGC http://mgc.nci.nih.gov/.	AUTHORS
1 (bases 1 to 759)	REFERENCE
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.	
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleoscomi;	
Homo sapiens	ORGANISM
human.	SOURCE
BST.	KEYWORDS
BG472146.1 GI:13404520	VERSION
BG472146	ACCESSION
mRNA sequence.	
602513869F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:4645/21 5',	DEFINITION
BG472146 759 bp mRNA linear EST 21-MAK-2001	LOCUS
-	BG472146

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ACCESSION
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTGGGCCTAAAAGGCCTCTTCCTCCGAGGCCCAAAGCCCGGCTCGCTGGACAGTCATGC 3154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGAGGCCTCCATCTTCGTGCATGTGGCTGTCAGTGACATCAGCGGTAAGGTCAAGCAGGC
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         Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                        Homo sapiens
                                                                                                                                                                                                                          BE255177.1 GI:9125614
                                                                                                                                                                                                                                                                             BE255177
                                                                                                                                                                                                                                                                                                              mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                   601115717F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:3356069 5',
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/clone="IMAGE:4645721"
/clone="IMAGE:4645721"
/clone=libb="NIH MGC 16"
/tissue_type="retinoblastoma"
/lab host="DH10B (phage-resistant)"
/lab host="DH10
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    Chordata;
Primates;
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Pred. No. 8e-260;
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Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                 374
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14 GGAGCAGACCCGCGTGGTGGACGACAACGGGTTCAACCCCACCTGGGAGGAGACCCTGGT 73
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TGTGGTGCCCCCCGGGCCCGGACCTGCTCCGGAAGCCCCAGCCCAGGAGGGGCCCGGCAG
                                         TGTGGTGCCCCCCGGGCCCGGGACCTGCTCCCGGAAGCCCCAGCCCAGGAGGGGCCCCGGCAG 3367
                                                                                                                                              GGGCTTCCCGGAGCTGGTCCTGGGTACACGGGACACAGGCTCCAAGGGGGTGGCAGACGA 3307
                                                                                                                                                                                               CCAGCGGATCCTGCGGCGCACGGCCAGCCCGACCAAGAGCCAGAAGCCGGGCCGCAG
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                                                                                                                                                                                                                                                                                              AAAGCCCGGCTCGCTGGACAGTCATGCTGCTGGGCGGCCCCCGGGCCCGGCCCTCCGTTAG
                                                                                                                                                                                                                                                                                                                                             AAAGCCCGGCTCGCTGGACAGTCATGCTGCTGGGCGGCCCCCGGGCCCGGCCCTCCGTTAG 3187
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               548;
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Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at: image.llnl.
Plate: LLCM161 row: b column: 06
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /clone="IMAGE:3356069"
/clone_lib="NIH_MGC 16"
/clone_lib="NIH_MGC 16"
/tissue_type="retinoblastoma"
/lab_host="DH10B (phage-resistant)"
/note="Organ: eye; Vector: pOTB7; Site 1: XhoI; Site 2:
/note="Organ: eye; Vector: pOTB7; Site 1: XhoI; Site 2:
cloned into BcoRI/XhoI sites using the following 5;
cloned into BcoRI/XhoI sites using the following 5;
adaptor: GGCACGAG(G). Library constructed by Ling Hong
in the laboratory of Gerald M. Rubin (University of
California, Berkeley) using ZAP-cDNA synthesis kit
(Stratagene) and Superscript II RT (Life Technologies).
Note: this is a NIH MGC Library."
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/db_xref="taxon:9606"
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                                                                                                                                                                                                                                                                                                                                                                 GAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAACTAC 1346
                     TGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGGAGCCCATTGTGCACCATGGCTAC 1586
                                                                                                     ACGCAGCCGCTGAGCCACTACTTCATCACCTCGTCCCACACACCCTACCTCGTGGGTGAC
                                                                                                                                                                                   ACCAGGAGCCCTGCTGACATCTTCAACCCTGAGCACCACCATGTGCACCAGGACATG 128
                                                                                                                                                                                                                                                                                                                         GAGCCATGCCCAGAAAACAAGAGTAAGGGGCTGCTGGGCATTGATGGCTTCACCAACTAC 68
                                                                             TGCGTGGAGGTGGACTGCTGGGATGGGCCCGACGGGGAGCCCATTGTGCACCATGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 1016)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CDNA Library Preparation: Ling Hong/Rubin Laboratory CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Incyte Genomics, Inc. Colone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: image.llnl.gov
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Email: cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              National Institutes of Health, Mammalian Gene Collection (MGC)
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/db xxef="txAGE:4579663"
/clone="IMAGE:4579663"
/clone="Ib="NIH MGC_16"
/tissus type="rectinoblastoma"
/lab host="DH10B (phage-resistant)"
/note="Organ: eye; Vector: pOTB7; Site 1: xhoI; Site 2:
/note="CDNA made by oligo-dT priming. Directionally
cloned into EcoRI/XhoI sites using the following 5;
adaptor: GGCACGAG(G). Library constructed by Ling Hong
in the laboratory of Gerald M. Rubin (University of
California, Berkeley) using ZAP-cDNA synthesis kit
(Stratagene) and Superscript II RT (Life Technologies).
Note: this is a NIH_MGC Library."
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
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299 c 343 g 140 t
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 365;
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Plate: LLAM9711 row: e column: 23
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Tissue Procurement: ATCC
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BE908459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  mRNA
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National Institutes of Health,
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                                                                            DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
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5', mRNA semierr
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Email: cgapbs-r@mail.nih.gov
Tissue Procurement: David N. Louis,
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National Institutes of Health,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 663)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Contact: Robert Strausberg, Ph.D.
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      133
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Location/Qualifiers
/note="Organ: brain; Vector: pCMV-SPORT6; Site_1: Not
Site_2: Sall; Cloned unidirectionally. Primer: Oligo
Average insert size 2.3 %b. Constructed by Life
Technologies. Note: this is a NCI_CGAP Library."
a 199 c 212 g 119 t
                                                                                                                              loss
                                                                                                                                                              /clone="IMAGE:4932488"
/clone_lib="NCI_CGAP_Brn67"
                                                                                                                                                                                                           db_xref="taxon:9606"
                                                                                                                                                                                                                          /organism="Homo sapiens"
                                                                                                    /lab_host="DH10B (T1 phage-resistant)"
                                                                                                                                          tissue_type="anaplastic oligodendroglioma with 1p/19q"
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TCBAP3E1691 Pediatric pre-B cell acute lymphoblastic leukemia
Baylor-HGSC project=TCBA Homo sapiens cDNA clone TCBAP1691, ml
                                                                                                                                                                                                                                                         Texas Children's Cancer Center and Human Genome at Baylor College of Medicine
                                                                                                                                                                                                                                                                                                                Pediatric Leukemia cDNA Sequencing Project Unpublished (2000) Contact: Dr. Judith F. Margolin
                                                                                                                                                                                                                                                                                                                                                                                                                Bukaryota; Metazoa, Chordata; Craniata; Vertebrata; I
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
1. (bases 1 to 395)
                                                                                                                                                        Email: clones@txccc.org
Citation: Carninci,P. and Hayashizaki,Y. High efficiency
full-length cDNA cloning. Methods Enzymol. 303, 19-44 (1
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/clone="TCBAP1691"
/clone lib="Pediatric pre-B cell acute lymphoblastic
leukemia Baylor-HGSC project=TCBA"
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                                                                 /db_xref="taxon:9606"
                                                                                   organism="Homo sapiens"
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Pred. No. 1.1e-145;
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                                                                                                                                                                   Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                        National Institutes of Health, Unpublished (1999)
                                                                                                                                                                                                                                                              1 (bases 1 to 00.)
NIH-MGC http://mgc.nci.nih.gov/.
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Mammalia; Eutheria;
1 (bases 1 to 801)
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801 pp mxvA timest conscione IMAGE:3355889
                                                                                                                                                                                                                       Contact: Robert Strausberg, Ph.D.
Plate: LLCM160 row: j column: 18 High quality sequence stop: 576.
                           found through the I.M.A.G.E. Consortium/LLNL at: image.llnl.gov Plate: LLCM160 row: j column: 18
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                                                                       cDNA Library Preparation: Ling Hong/Rubin Laboratory
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
CNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note="Wector: lambda pSB; Site 1: BamHI; Site_2: EcoRI; /note="Wector: lambda pSB; Site 1: BamHI; Site_2: First strand cDNA was primed with an anchored XhoI-oligo (dT) primer [5:GGAGGACTCGAGCGAGGAGGAG(T) VN 3'; V=A, C,G; M=A, C,G; T] and then dG tailed. Second strand was primed with a BamHI-dC primer [5:AGAGAGCTCGGATCGGCGCGAATPAATAATA(C) 3'].

[5:AGAGAGCTCGGATCGGCGCGCAATPAATAATAAT(C) 3'].

Double-stranded cDNA was then digested with BamHI and XhoI and directionally cloned into the BamHI and SalI sites of lambda pSB vector. Library went through one round of normalization. Library was constructed by Wei Yu at RIKEN of Japan (Carninci P, Westover A, Nishiyama Y, Ohsumi T, Itoh M, Nagaoka S, SasakiN, Okazaki Y, Muramatsu M, Schneider C, Hayashizaki Y, High efficiency selection of full-length cDNA by improved biotinylated cap trapper., DNA Res 4: 1, 61-6, Feb 28, 1997)"
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/cell_mpe="pre-B cell"
/dev_stage="pediatric 2 years"
/lab_host="DH10B"
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100.0%; Pr
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1 (bases 1 to 684)

NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                         Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        mRNA sequence.
BI756147
BI756147.1 GI:15747725
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603030048F1 NIH MGC 114 Homo
mRNA semience
                                                                                                                                                                                                    High quality sequence stop: 535
Location/Qualifiers
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                                                                                                                                                                                                                                                Plate: LLAM11501
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     Contact: Robert Strausberg, Ph.D.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /clone="IMAGE:3355889"
/clone=lib="NIH_MGC_16"
/tissue_type="retinoblastoma"
/lab_host="UPH10B (phage-resistant)"
/note="Organ: eye; Vector: pOTB7; Site_1: XhoI; Site_2:
ECORI; cDNA made by oligo-dT priming. Directionally
cloned into EcoRI/XhoI sites using the following 5'
adaptor: GGCACGAG(G). Library constructed by Ling Hong
in the laboratory of Gerald M. Rubin (University of
California, Berkeley) using ZAP-cDNA synthesis kit
(Stratagene) and Superscript II RT (Life Technologies).
Note: this is a NIH_MGC Library."
                              Site
/note="Organ: brain; Vector: pCMV-SPORT6; Site_1: NotI; Site_2: EcoRV (destroyed); RNA source anonymous pool of male brains, age range 23-27 yo. Library is oligo-dT
                                                                   /clone="IMAGE:5200378"
/clone_lib="NIH_MGC_114"
/lab_host="DH10B"
                                                                                                                                    /organism="Homo sapiens"
/db_xref="taxon:9606"
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/db_xref="taxon:9606"
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Pred. No. 4.6e-68;
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AQ741196
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCCAGACAGCCCGGGCATCCCCGAAAGGTCCCCCCCGCTGGCCTGAGGGTGCCTGCAGGC 3795
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                                                                                                                                                                                                                                 High quality sequence stop: 839.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                               Fax: (206) 616-3887
Email: jwallace@u.washington.edu
Clones may be purchased from Research Genetics (info@resgen.com).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       High Throughput Sequencing Center University of Washington
401 Queen Anne Avenue North, Seattle,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 839)

Mahairas,G.G., Wallace,J.C., Smith,K., Swartzell,S., Holzman,T., Mahairas,G.G., Wallace,J.C., Smith,K., Swartzell,S., Adams,M.D. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AQ741196 839 bp DNA linear GSS 16-JUL-1999 HS_2273_A2_G04_MR CIT Approved Human Genomic Sperm Library D Homo sapiens genomic clone Plate=2273 Col=8 Row=M, DNA sequence.
                                                                                                                                                                                                                                                                                    Seq primer: M13 Reverse
Class: BAC ends
                                                                                                                                                                                                                                                                                                                                 BAC end Web Server: http://www.htsc.washington.edu
Plate: 2273 row: M column: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Mahairas GG, Wallace JC, Hood L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99380589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Proc. Natl. Acad. Sci. U.S.A. 96 (17), 9739-9744 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence-tagged connectors: A sequence approach to mapping
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                scanning the human genome
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  134 a
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                        /note="Organ: sperm; Vector: pBeloBAC11; BAC Clones
E-Coli DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                upon cloning). Average insert size 1.5 kb, insert size range 1-3 kb. Library is normalized and enriched for full-length clones and was constructed by C. Gruber (Invitrogen). Research Genetics tracking code 019. Note: this is a NIH MGC Library."
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                                                                           /sex="male"
                                                                                                   /clone="Plate=2273 Col=8 Row=M"
/clone_lib="CIT Approved Human Genomic Sperm Library D"
                                                                                                                                                        /db_xref="taxon:9606"
                                                                                                                                                                              organism="Homo sapiens"
                                                                                                                                                                                                           .. .839
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TITLE
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                                     2466 TACCCCTCCTACCGTGTGGACTCCAGCAACTACAA 2503
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TACCCCTCCTACCGTGTGGACTCCAGCAACTACAA 387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               57;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Email: mEST@mail.nih.gov
Oligo-dT track not found, Not I site shown in beginning of sequence
is likely internal to the message. cDNA Library Preparation: M.B.
Soares Lab Clone distribution: Researchers may obtain BMAP cDNA
clones from RESEARCH GENETICS. It should be noted that Bento Soares
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Contact: Chin, H
National Institute of Mental Health
National Institute of Mental Health
6001 Executive Blvd. Room 7N-7190, MSC 9643, Bethesda,
20892-9643, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 (bases 1 to 509)
Bonaldo, M.F., Lenno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mus musculus
                                                                                                                                             38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          is generating a small number of additional specialized non-redundant arrays of BMAP cDNAs whose availability will be considered under appropriate and limited collaborative arrangements
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tel: 301 443 1706 Fax: 301 443 9890
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
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                                                                                                                                                                               Similarity
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                                                                                                                                                                                                                                                                                                                         133
                                                                                                                                                                                                                                                                                                              /clone="UI-M-CGGp-bnl-h-03-0-UI"
/clone_lib="NIH BMAP Ret4 S2"
/lab host="DH100 (Life Technologies)"
/lab host="DH100 (Pharmacia) with a modified polylinker; Site 1: Not I; Site 2: Eco RI; The polylinker; Site 1: Not I; Site 2: Eco RI; The Not I; The Not I; The Not I; The Not I; Site 2: Eco RI; The Not I; The Not I;
                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           strain="C57BL/6J"
db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GI:11532481
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                                                                                                                                                                        100.0%;
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                                                                                                                                                                           Score 38;
Pred. No.
                                                                                                                                             Mismatches
                                                                                                                                                                               3.5e-06;
                                                                                                                                                                                                                    DB 12;
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                                                                                                                                                                                                                 Length 509;
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JOURNAL
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                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Email: genome-res@gsc.riken.go.jp,
URL:http://genome.gsc.riken.go.jp/
Carninci,P., Shibata,Y., Hayareu,N., Sugahara,Y., Shibata,K., Itoh
Carninci,P., Shibata,Y., Muramatsu,M. and Hayashizaki,Y.
Normalization and subtraction of cap-trapper-selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new
genes. Genome Res. 10 (10), 1617-1630 (2000)
wagi,K., Fujiwake,S., Inoue,K., Togawa,Y., Izawa,M., Ohara,E.,
Watahiki,M., Yoneda,Y., Ishikawa,T., Ozawa,K., Tanaka,T., Matsuura
,S., Kawai,J., Okazaki,Y., Muramatsu,M., Inoue,Y., Kira,A. and
Hayashizaki,Y.
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Unpublished (2001)
On Jul 18, 2000 this sequence version replaced gi:9270450.
Contact: Yoshihide Hayashizaki
Contact: Yoshihide Hayashizaki
Contact: Yoshihide Hayashizaki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BB430723 RIKEN full-length enriched, adult male hippocampus Mus musculus cDNA clone C630034J05 3', mRNA sequence.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   encyclopedia: real-time sequence clustering for construction of a nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001) Yamanaka, I., Kiyosawa, H., Kondo, S., Saito, T., Shinagawa, A., Aizawa, K., Fukuda, S., Hara, A., Itoh, M., Kawai, J., Shibata, K., Arakawa, T., Ishii, Y. and Hayashizaki, Y.

Mapping of 19032 mouse cDNAs on mouse chromosomes. J. Struct. Func. Genomics 2 pre, L72-L86 (2001)
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The Institute of Physical and Chemical Research (RIKEN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BB430723.2
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                                                                                                                                                                                                                                                                                                                                                                                           cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken contributed to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RIKEN integrated sequence analysis (RISA) system--384-format sequencing pipeline with 384 multicapillary sequencer. Genome 10 (11), 1757-1771 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fax: 81-45-503-9216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa
Tel: 81-45-503-9222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Please visit our web site \{http://genome.gsc.riken.go.jp/\} for further details.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nouse mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Computer-based methods for the mouse full-length cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Y. and Hayashizaki, Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Konno, H., Fukunishi, Y., Shibata, K., Itoh, M., Carninci, P., Sugahara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (bases 1 to 696)
                                                                                                                                                                                                                                                                                                                                                                        mouse tissues
                                                                    hippocampus"
                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                          organism="Mus musculus"
tissue_type="hippocampus"
                                                                                                                 /clone_lib="RIKEN full-length enriched, adult male
                                                                                                                                            clone="C630034J05"
                                                                                                                                                                              db_xref="taxon:10090"
                                                                                                                                                                                                                strain="C57BL/6J"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sequencer. Genome Res.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    230-0045, Japan
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COMMENT

SOURCE

**FOCUS** 

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BASE COUNT
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BG299246
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ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
TITLE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best|Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                       source
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|Local Similarity
                        Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCAT 182
                                                                                                                                                                                                                                                                                                                                                    High quality sequence start: 4
High quality sequence stop: 660.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Email: cgapbs-r@mail.nih.gov
Tissue Procurement: The Cepko Laboratory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             38;
                                                                                                                                                                                                                                                                                                                                                                                                                        Plate: LLAM10384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 711)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BG299246.1 GI:13064707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BG299246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                house mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cDNA Library Preparation: Life Technologies, Inc. (LLNL)
                                                                                     179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  184 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                full-length clones and constructed by Life Technologies.
Note: this is a NIH_MGC Library."
204 c 211 g 116 t 1 others
                                                                                                                                         /clone_lib="NIH_MGC_94"
/tissue_type="retina"
/tissue_type="retina"
/lab_host="DH10B (phage-resistant)"
/note="rogan: eye; Vector: pCMV-SPORT6; Site_1: NotI;
Site_2: SalI; Cloned unidirectionally; oligo-dT primed.
Syrange insert size 3.3 kb. Library enriched for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note="Site_1: XhoI; Site_2: BamHI; cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken
                                                                                                                                                                                                                                                                        /db_xref="taxon:10090"
/clone="IMAGE:4507377"
                                                                                                                                                                                                                                                                                                             organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      primer adapter of sequence [5'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cap-trapper. Second strand cDNA was prepared with the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              prepared by using trehalose thermo-activated reverse transcriptase and subsequently enriched for full-length by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /dev_stage="adult"
/lab_host="SOLR"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (1999)
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  0.8%;
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Score :
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                202 g
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  . No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    134 t
DB 12;
3.7e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 10;
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                   Length 711;
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KEYWORDS SOURCE

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AUTHORS
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BQ946757
                    REFERENCE
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                                                                                                                                                               ACCESSION
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                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
1 (bases 1 to 930)
NIH-MGC http://mgc.nci.nih.gov/.
                                                                               Mus musculus
                                                                                                                         EST
                                                                                                                                          BQ960462.1
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AGENCOURT_8930277 NIH_MGC_94
5', mRNA sequence
                                                                                                                                                                                                                       BQ960462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov Plate: LLAM13991 row: k column: 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Email: cgapbs-r@mail.nih.gov
Tissue Procurement: The Cepko Laboratory
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus 1 (bases 1 to 889)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5', mRNA sequence.
BQ946757
                                                                                                                                                                           5', mRNA sequence.
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National Institutes of Health, Mammalian Gene Collection (MGC)
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                                                                                                  nouse mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Contact: Robert Strausberg, Ph.D.
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/tissue_type="retina"
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Average insert size 3.3 kb. Library enriched for
full-length clones and constructed by Life Technologies.
Note: this is a NIH_MGC Library."
a 268 c 272 g 155 t 1 others
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Pred. No. 3.9e-06;
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Search completed: March 29, 2003, 08:02:21 Job time : 6873 secs
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                                                                                                                                                                                                                               Query Match 0.8%; Score 38; DB 14; Best Local Similarity 100.0%; Pred. No. 3.9e-06; Matches 38; Conservative 0; Mismatches 0;
                                                                                                                                                   2466 TACCCCTCCTCCTACCGTGTGGACTCCAGCAACTACAA 2503
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                                                                                                                    431 TACCCCTCCTACCGTGTGGACTCCAGCAACTACAA 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 National Institutes of Health, Mammalian Gene Collection (MGC)

Unpublished (1999)

Contact: Robert Strausberg, Ph.D.

Email: cgapbs-r@mail.nih.gov

Tissue Procurement: The Cepko Laboratory

CDNA Library Preparation: Life Technologies, Inc.

CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Sequencing by: Agencourt Bioscience Corporation

Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:

http://image.llnl.gov

Plate: LLAM13990 row: o column: 04

High quality sequence stop: 634.

Location/Qualifiers

INC. TOTAL TOTAL ACTION (MGC)

Corporation (MGC)

Plate: LLAM13990 row: o column: 04

Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                       /organism="Mus musculus"
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Site_2: SalI; Cloned unidirectionally; oligo-dT primed.
Average insert size 3.3 kb. Library enriched for
full-length clones and constructed by Life Technologies.
Note: this is a NIH_MGC Library."
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Scoring table:
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Maximum DB seq length: 2000000000
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6379
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: /cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*
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pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

11	Result
6379 1738 1741 1441 1241 1279.5 1278.5 1278.5 1085.5 522.5 522.5 522.5 522.5 522.5 522.5 522.5 522.5 522.5	Score
100.0 22.6 22.6 20.1 20.1 20.1 19.0 115.7 115.7 111.3 10.7 8.1 7.7 7.7 7.7	Query Match Length
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10 10 10 10 10 10 10 10 10 10	DB
US-09-927-112-2 US-09-927-112-10 US-09-804-969-15 US-09-804-969-15 US-10-096-961-2 US-10-096-961-2 US-10-096-961-2 US-10-096-961-2 US-09-908-664-5 US-09-908-664-5 US-09-928-447-11 US-09-928-664-13 US-09-908-664-13 US-09-908-664-13 US-09-908-664-13 US-09-908-664-13 US-09-97-112-11 US-09-975-298A-10 US-09-800-971-7	ID
Sequence 2, Appli Sequence 15, Appl Sequence 15, Appli Sequence 2, Appli Sequence 5, Appli Sequence 5, Appli Sequence 6, Appli Sequence 11, Appli Sequence 11, Appli Sequence 12, Appli Sequence 12, Appli Sequence 12, Appli Sequence 13, Appli Sequence 13, Appli Sequence 11, Appli Sequence 13, Appli Sequence 11, Appli Sequence 17, Appli	Description

45	44	43	42	41	40	39	38	37	36	35	34	<u>ω</u>	32	<u>31</u>	30	29	28	27	26	25	24	23	22	21	20
193.5	228	249	255.5	260.5	263.5	264	264	284.5	284.5	290	290	290	290	319.5	320.5	323.5	335	375	426.5	426.5	426.5	426.5	426.5	444	444
3.0	3.6	3.9	4.0	4.1	4.1	4.1	4.1	4.5	4.5	4.5	4.5	4.5	4.5	5.0	5.0	5.1	5. 3	5.9	6.7	6.7	6.7	6.7	6.7	7.0	7.0
535	1134	92	134	105	102	158	158	202	181	128	128	128	128	119	272	128	119	201	153	153	153	153	153	119	119
9	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	9	9
US-10-043-487-306	us-10-001-873-50	US-09-927-112-16	US-09-927-112-15	US-09-764-870-357	US-09-822-635-7	US-09-764-860-342	٠.	US-09-908-664-14	US-09-927-112-14	US-09-908-664-20	US-09-908-664-11	US-09-927-112-8	US-09-800-971-8	US-09-908-664-15	US-09-804-969-19	US-09-908-664-23	US-09-800-971-9	US-09-867-550-1334	US-09-908-664-19	US-09-908-664-10	US-09-927-112-7	US-09-800-971-6	US-09-822-635-5	US-09-955-999-84	US-09-764-868-637
sequence 306, App	Sequence 50, Appl		5	Sequence 357, App	Sequence 7, Appli	Sequence 342, App	Sequence 377, App	Sequence 14, App1	Sequence 14, Appl	Sequence 20, Appl			Sequence 8, Appli	~	Sequence 19, Appl	23		Sequence 1334, Ap	Sequence 19, Appl	Sequence 10, Appl	Sequence 7, Appli	Sequence 6, Appli	Sequence 5, Appli	Sequence 84, Appl	637,

## ALIGNMENTS

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US-09-927-112-2

; Sequence 2, Application US/09927112

; Patent No. US20020106774A1
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NUMBER OF SEQ ID NOS: 17
SOFTWARE: FrastSEQ for Windows Version 4.0
SEQ ID NO 2
LENGTH: 1207
TYPE: PRT
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Meyers, Rachel
APPLICANT: Silos-Santiago, Inmaculada
APPLICANT: Silos-Santiago, Inmaculada
TITLE OF INVENTION: 32544, a novel human phospholipase C and
TITLE OF INVENTION: uses thereof
FILE REFERENCE: 38155-20048.00
CURRENT APPLICATION NUMBER: US/09/927,112
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: US 60/246,808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Millennium Pharmaceuticals, Inc.
181
                  181 GDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMSTRRDL 240
                                                                               121 YHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEADKN 180
                                                                                                      121 YHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEADKN 180
                                                                                                                                                                                              61 LVRFYYLDEHRSCIRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRYPDGSFDPNCCFSI 120
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100.0%; Pred. No. 0;
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                                                                                 RSKSPMFSAGKPLLPCVVLPHAPGMAGPGSPAAASAWTVSPRVLVLVALYPWHCLRGTLL 1200
                                                                                                                                                           GPGAWRQGPGGSGSMSSDSSSPDSPGIPERSPRWPEGACRQPGALQGEMSALFAQKLEEI 1140
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                                    PWLACGP 1207
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PWLACGP 1207
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                                                                RSKSPMFSAGKPLLPCVVLPHAPGMAGPGSPAAASAWTVSPRVLVLVALYPWHCLRGTLL
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RESULT 2 US-09-927-112-10

Sequence 10, Application US/09927112

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APPLICANT: Mayers, Rachel
APPLICANT: Silos-Santiago, Inmaculada
ITILE OF INVENTION: 32544, a novel human pho
ITILE OF INVENTION: 32544, a novel human pho
ITILE OF INVENTION: uses thereof
FILE REFERENCE: 38155-20048.00
CURRENT APPLICATION NUMBER: US/09/927,112
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: US 60/246,808
PRIOR APPLICATION NUMBER: US 60/246,808
NUMBER OF SEQ ID NOS: 17
SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 10
LENGTH: 325
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                                                                                                                                                                                                                               APPLICANT: Hu, Yi
APPLICANT: Nepomn
APPLICANT: Donoho
APPLICANT: Hilbun
APPLICANT: Turner
APPLICANT: Abuin,
                                                                                                                                                                                                                                                                                                                                                                              Sequence 15, Application UP Patent No. US20020081595A1
                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
APPLICANT: Sands, Arthur T.

TITLE OF INVENTION: No. US20020081595Alel Human Phospholipases and Polynucleotides FILE REFERENCE: LEX-0148-USA, CURRENT APPLICATION NUMBER: US/09/804,969

CURRENT FILING DATE: 2001-03-13

PRIOR APPLICATION UNMBER: US 60/188,885

PRIOR FILING DATE: 2000-03-13

PRIOR FILING DATE: 2000-03-13

PRIOR PRIOR FILING DATE: 2000-03-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 27.2%;
Best Local Similarity 99.7%;
Matches 324; Conservative
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ORGANISM: Artificial Sequence
FEATURE:
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                                                                                                                                                                                 Donoho, Gregory
Hilbun, Erin
Turner, C. Alexander Jr.
Abuin, Alejandro
Friedrich, Glenn
Zambrowicz, Brian
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Pred. No. 1.2e-97;
1; Mismatches (
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ORGANISM: homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                    GSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA----THDIE 638
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                                                                                              LVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL---EG--MEEAS 870
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                                                                                                                                                    LIQVISGQQLPKVDKT---KEGSIVDPLVKVQIFGVRLDTARQETNYVENNGFNPYWGQT 686
                                                                                                                                                                                                                              CQMVAMNMQTAGLEMDICDGHFRQNGGCGYVLKPDFLRDIQSSFHP--EKPISPFKAQTL 629
                                                                                                                                                                                                                                                                COMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSEDPLPGQLKKQL 756
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IFVYICIQE---
                                      IFVHVAVSDISGKVKQALGLKG 892
                                                                          LCFRVLVPELAMLREVVMDYDWKSRNDFIGQYTLPWTCMQQGYRHIHLLSKDGISLRPAS 746
    759
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LENGTH: 762
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Best Local
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TITLE OF INVENTION: 16816 AND 16839, NOVEL HUMAN
TITLE OF INVENTION: 16816 AND 16839, NOVEL HUMAN
TITLE OF INVENTION: PHOSPHOLIPASE C MOLECULES AND USES THEREFOR
FILE REFERENCE: 38155-20022.00
CURRENT APPLICATION NUMBER: US/09/908,664
CURRENT FILING DATE: 2001-07-17
PRIOR APPLICATION NUMBER: US 60/218,675
PRIOR APPLICATION STANDARD STANDARD SEQ ID NOS: 24
NUMBER OF SEQ ID NOS: 24
SOFTWARE: FastSEQ for Windows Version 4.0
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APPLICANT: Meyers, Rachel
APPLICANT: Rudolph-Owen, Laura
APPLICANT: Tsai, Fong Yin
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                                             512 KEHYHFYEISSESETKAKRLIKEAGNEFVQHNTWQLSRVYPSGLRTDSSNYNPQELWNAG 571
  699 CQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSEDPLPGQLKKQL 756
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIE
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                                                                                                                                                 GSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA----THDIE 638
                                                                                              MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAG 698
                                                                                                                                                                                                                                            ESQFETEPEPQ------EQNLQNKD-----
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	457 MLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENT 512	Qy
, b k	Y 397 ETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQ 456	Дb
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	y 100 QSEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSL 159 ::  :::	Qy
	Y 44 AMQEGMOMYKLRGGSKGLVRFYYLDEHRSCIRWRPSRKNEKAKISIDSIQEVSEGR 99	Qy
	Query Match 20.1%; Score 1281; DB 9; Length 744; Best Local Similarity 35.7%; Pred. No. 1.4e-69; Matches 306; Conservative 128; Mismatches 278; Indels 144; Gaps 16;	X m O
	RESULT 5 Sequence 4, Application US/10096961 Sequence 4, Application US/10096961 Patent No. US20020155572A1 GENERAL INFORMATION: APPLICANT: GUEGLER, Karl et al. TITLE OF INVENTION: ISOLATED HUMAN PHOSPHOLIPASE PROTEINS, TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING HUMAN PHOSPHOLIPASE TITLE OF INVENTION: PROTEINS, AND USES THEREOF TITLE OF INVENTION: PROTEINS, AND USES THEREOF CURRENT PILLING DATE: 2002-03-14 CURRENT PILLING DATE: 2002-03-14 PRIOR APPLICATION NUMBER: 60/232,632 PRIOR APPLICATION NUMBER: 60/232,632 PRIOR APPLICATION NUMBER: 60/232,632 PRIOR APPLICATION NUMBER: 60/232,632 PRIOR APPLICATION NUMBER: 09/738,884 PRIOR APPLICATION NUMBER: 09/738,884 PRIOR FILLING DATE: 2000-09-14 PRIOR APPLICATION NUMBER: 09/738,884 PRIOR FILLING DATE: 2000-12-18 SOUTMARE: FASTSEQ for Windows Version 4.0  SEQ ID NO 4 LENGTH: 744 TYPE: PRT ORGANISM: Cricetulus griseus SS-10/-096-961-4	US-
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101 SEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWYTGLRYLMAGISDE     :	Query Match Query Match Best Local Similarity 34.9%; pred. No. 1.7e-69; Matches 297; Conservative 33; Mismatches 275; Indels 147; G  Qy 44 AMQEGMQMYKLRGGSKGLVRFYYLDEHRSCIRWRPSRKNEKAKISIDSIQEVSEGRQ Db 11 AMLRGSRLRKIRSRTWHKERLYRLQEDGLSV-WFQRRIPRAPSQHIFFYQHLEAVRECHO Db 11 AMLRGSRLRKIRSRTWHKERLYRLQEDGLSV-WFQRRIPRAPSQHIFFYQHLEAVRECHO	WULT 109:1	864 - 728 N	Qy 748 LPQQLKKQLYLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDN	552 552	461 573 462	
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                                                      ; TYPE: PRT; ORGANISM: Homo sapien US-10-096-961-2
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Patent No. US20020155572A1
Query Match
Best Local Similarity
                                                                                                                                 SEQ ID NO 2
                                                                                                                                                                                                                                                                 APPLICANT: GUEGLER, KAR1 et al.

TITLE OF INVENTION: ISOLATED HUMAN PHOSPHOLIPASE PROTEINS,

TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING HUMAN PHOSPHOLIPASE

TITLE OF INVENTION: PROTEINS, AND USES THEREOF

FILE REFERENCE: CL000849DIV

CURRENT APPLICATION NUMBER: US/10/096,961

CURRENT FILING DATE: 2002-03-14
                                                                                                                                                  PRIOR FILING DATE: 2000-12-18
NUMBER OF SEQ ID NOS: 5
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                             PRIOR FILING DATE: 2000-09-14
PRIOR APPLICATION NUMBER: 09/738,884
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                                                                                                               LENGTH: 736
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                                                                              SKDGASLSPATLFIQIRI 733
                                                                                                                                                           NNGFNPRWGQTLQFQLRAPELALVRFVVEDYDATSPNDFVGQFTLPLSSLKQGYRHIHLL 715
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Sequence 5, Application US/10096961 Patent No. US20020155572A1 GENERAL INFORMATION:

APPLICANT: GUEGLER, Karl et al.
TITLE OF INVENTION: ISOLATED HUMAN PHOSPHOLIPASE PROTEINS,
TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING HUMAN PHOSPHOLIPASE
TITLE OF INVENTION: PROTEINS, AND USES THEREOF
FILE REFERENCE: CL000849DIV

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Best Local Similarity
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LENGTH: 744
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PRIOR FILING DATE: 2000-12-18
NUMBER OF SEQ ID NOS: 5
SOFTWARE: FastSEQ for Windows Version
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PRIOR FILING DATE: 2000-09-14
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CURRENT FILING DATE: 2002-03-14
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                                   DNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYLE 864
                                                                                                       DPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVD
                                                                                                                                                                                                                                                                           SVATHDIEMEAASS---WQVSSFSETKAHQILQQKPAQYLRENQQQLSRIYPSSYRVDSS 687
NNGENPRWDTEFEFVVAVPDLALVRFMVEDYDSSSKNDFIGQSTIPWNSLKQGYRHVHLL 725
                                                                            TQGPWWAPKKLRVWIISGQQLPKVNK----NKNSIVDPKVIVEIHGVGQDVASRQTAVIT
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                                                                                                                                                                                                                                          SVHFGGFSSPSTSGQAFYEMASFSESRALRLLQESGNSFVRHNVGHLSRIYPAGWRTDSS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PQMLKGKILVKGKK----LPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVE 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VLRAIRDYAFKASPYPVILSLENHCSLEQQRVMAHHLRAILGPML-LDQPLDGVTTSLPS 416
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --ALSLIERYEPSETAKAQRQMTKDGFLMYLLSADGNAFSLAHRRVYQDMNQPLSHYLVS
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 5
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Patent No. US20020115178A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: 16816 AND 16839, NOVEL HUMAN
TITLE OF INVENTION: PHOSPHOLIPASE C MOLECULES AND USES THEREFOR
FILE REFERENCE: 38155-20022.00
CURRENT APPLICATION NUMBER: US/09/908,664
CURRENT FILING DATE: 2001-07-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR FILING DATE: 2001-07-17
PRIOR FILING DATE: 2000-07-17
NUMBER OF SED TO NO.
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TYPE: PRT
ORGANISM: Homo sapiens
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                                    713 LQLNRAKFSANGGCGYVLKPGCM--CQGVFNP-NSEDPLPGQLKKQLVLRIISGQQLPKP 769
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        183 GSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMSTRRDLYL 242
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MDLQNGKFLDNGGSGYILKPHFLRESKSYFNPSNIKEGMP----ITLTIRLISGIQLPLT
                                                                            TQARKLSKLRVHEFIFHTRKFITRIYPKATRADSSNFNPQEFWNIGCQMVALNFQTPGLP
                                                                                               TKAHQILQQKPAQYLRENQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSBGRM 712
                                                                                                                                                       -----EKFKSFQHSRLYQQFNENNSIGE
                                                                                                                                                                                                                                        ----KHGDNQDKETGV-----KKLPGVMLFKKKKTRKL-----
                                                                                                                                                                                                                                                                         SGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGODSP 602
                                                                                                                                                                                                                                                                                                                                                    SDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTLSP 542
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CRCLEIDCWDGAQNEPVVYHGYTLTSKLLFKTVIQAIHKYAFMTSDYPVVLSLENHCSTA 255
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Rudolph-Owen, L
Tsai, Fong Yin
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CURRENT FILING DATE: 2001-04-16
PRIOR APPLICATION NUMBER: US 60/197,137
PRIOR FILING DATE: 2000-04-14
PRIOR APPLICATION NUMBER: US 09/714,936
PRIOR FILING DATE: 2000-11-17
PRIOR APPLICATION NUMBER: US 09/667,298
PRIOR APPLICATION NUMBER: US 09/667,298
PRIOR FILING DATE: 2000-09-22
PRIOR APPLICATION NUMBER: US 09/631,451
PRIOR APPLICATION NUMBER: US 09/598,042
PRIOR APPLICATION NUMBER: US 09/598,042
PRIOR FILING DATE: 2000-06-20
PRIOR FILING DATE: 2000-06-20
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SOFTWARE: PatentIn version 3.0
SEQ ID NO 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: MATERIALS AND METHODS RELATING TO LIPID METABOLISM FILE REFERENCE: 28110/35915A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 567
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283 QFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLV 342
                                                                                                                                                                         132 QERLDQWLSDWFQRGDKNQDGKMSFQEVQRLLHLMNVEMDQEYAFSLFQAADT-SQSGTL 190
                                                                                                                                                                                                                  163 QRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTL 222
                                                                                                                                                                                                                                                                                                                      103 VFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARR 162
                                                                          191 EGEEFVQFYKALTKRAEVQELFESFSADGQKLTLLEFLDFLQEEQKERDCTSELALELID 250
                                                                                                                                                                                                                                                                        77 LLRSLAEELPLEQGFTIVFHG-RRSNLDLMANSVEEAQIWMRGLQLLVDLVTSMD----H 131
                                                                                                                                                                                                                                                                                                                                                                       18 MQEGMPMRKVRSKSWKKLRYFRLQNDGMTV-WHARQARGSAKPSFSISDVETIRNGHDSE 76
                                                                                                                                                                                                                                                                                                                                                                                                                     45 MQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRW--RPSRKNEKAKISIDSIQEVSEGRQSE 102
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                                                                                                                           GFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIE 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   237; Conservative 106; Mismatches 201; Indels 112;
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Similarity 36.1%; Pred. No. 7e-53;
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Qian, Xiahong
Wang, Dunrui
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Drmanac, Radoje
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Asundi, Vinod
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CURRENT FILING DATE: 2001-03-30
PRIOR APPLICATION NUMBER: US 60/193,921
PRIOR FILING DATE: 2000-03-31
NUMBER OF SEQ ID NOS: 9
SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 2
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TITLE OF INVENTION: 16836, A HOVEL HUMAN PHOSPHOLIPASE C AND
TITLE OF INVENTION: USES THEREOF
FILE REFERENCE: 10448-035001
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APPLICANT: Meyers, Rache
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                                                225 EEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQF 284
                                                                                                        808 AIAAASIVTNGTGIESTSLGIFGVGILQ-LNDFLVNC-----
                                                                                                                                                     169 WLKQTFDEADKNGDGSLSIG----EVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGF 224
                                                                                                                                                                                                           764 NLTIDENT-----SDLQPDLDLLTRN-----VSDLGLF---IKSKQQLSDNQRQISD 807
                                                                                                                                                                                                                                                                 109 DGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQ 168
                                                                                                                                                                                                                                                                                                                    706 GMKGFQSFMVSDSNMSFVEFVELFKSFSVRSRKDLKDLFDVYAVPCNRSG--SESAPLYT 763
846 -EHCTYDEILS----
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                                                                                                                                                                                                                                                                                                                                                                         57 GSKGLVRFYYLDEHRSCIRWRP-----SRKNEKAKISIDSIQEVSEGRQSEVFQRYP 108
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; ORGANISM: Physcomitrella patens US-09-828-447-11
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                                                                                   SEQ ID NO 11
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                                                                                                                                            CURRENT FILING DATE: 2001-08-20 PRIOR APPLICATION NUMBER: 60/196,001 PRIOR FILING DATE: 2000-04-07
                                                                                                                                                                                                                                           APPLICANT: ISHITANI, MANABU
TITLE OF INVENTION: SIGNAL TRANSDUCTION STRESS-RELATED PROTEINS AND METHODS
TITLE OF INVENTION: OF USE IN PLANTS
                                                                                                                                                                                                                                                                                                                                                            APPLICANT: COSTA E SILVA, OSWALDO DA APPLICANT: BOHNERT, HANS J.
                                                                                                   NUMBER OF SEQ ID NOS: 41
                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/828,447
CURRENT FILING DATE: 2001-08-20
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                                                                                                                                                                                                                                      FILE REFERENCE: 16313-0037
                                          LENGTH: 1
TYPE: PRT
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VAN THIELEN, NOCHA
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                                                                                                                                                                                                                                                                                                                                                                   Sequence 12, Application US/09828447 Patent No. US20020069432A1
CURRENT APPLICATION NUMBER: US/09/828,447 CURRENT FILING DATE: 2001-08-20 PRIOR APPLICATION NUMBER: 60/196,001 PRIOR EILING DATE: 2000-04-07 NUMBER OF SEQ ID NOS: 41 SOFTWARE: Patentin Ver. 2.1
                                                                                                                                              APPLICANT: CHEN, ROUYING
APPLICANT: ISHITANI, MANABU
TITLE OF INVENTION: SIGNAL TRANSDUCTION STRESS-RELATED PROTEINS AND METHODS
TITLE OF INVENTION: OF USE IN PLANTS
FILE REFERENCE: 16313-0037
                                                                                                                                                                                                                                                             APPLICANT: COSTA E SILVA, OSWALDO DA APPLICANT: BOHNERT, HANS J. APPLICANT: VAN THIELEN, NOCHA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       485 RN-ERHKSKFPGFIVSSDLSKGDFKNYVLSP--DLNGVLESTVHQDMTQPLSHYFIFTGH 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     426 FGRKKSKKGDLAQDLLGDVFSTYSEN-GKLDAEGLLKFLQTEQGDSKSSLDDAKHLVELI 484
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LENGTH: 628
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Best Local :
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                                                                               APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           373 VD--ESVKRISLSESKLEKVVEKWPEALVKFTQKNILRVYPAANRVNSSNECPTLAWNYG 430
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                                                                                                                                                                                                                                                                                                                                                                                                                 546 NEDHEFALKCPELALLRIEVRDHDDDSKDEFEGQTCLPIHEVRDGYR 592
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                                                                                                                                                                                                                            Ballinger, Dennis
Loeb, Debra
Wehrman, Tom
Drmanac, Radoje
Ren, Feiyan
Qian, Xiahong
                                                                             Asundi, Vir
Zhao, Qing
                                                                                                                                                           Montgomery, Julie
Tang, Y. Tom
Zhou, Ping
                                                                                                   Liu, Chenghua
Asundi, Vinod
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                                             NUMBER OF SEQ ID NOS: 24
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 22, Application US/09908664 Patent No. US20020115178A1
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PRIOR FILING DATE: 2000-08-03
PRIOR APPLICATION NUMBER: US 09/598,042
                                                                                                                         APPLICANT: Millennium Pharmaceuticals, Inc.
APPLICANT: Meyers, Rachel
APPLICANT: Rudolph-Owen, Laura
APPLICANT: Tsal, Fong Yin
TITLE OF INVENTION: 16816 AND 16839, NOVEL HUMAN
TITLE OF INVENTION: PHOSPHOLIPASE C MOLECULES AND USES THEREFOR
FILE REFERENCE: 38155-20022.00
CURRENT ELIUNG DATE: 2001-07-17
PRIOR APPLICATION NUMBER: US/9/908,664
CURRENT ELIUNG DATE: 2000-07-17
PRIOR APPLICATION NUMBER: US 60/218,675
PRIOR FILING DATE: 2000-07-17
NUMBER OF SECTION NOTE: 2000-07-17
NUMBER OF SECTION NOTE: 2000-07-17
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                                                                                                                                                                                               Ouery Match 8.1%; Score 515; DB 10; Length 191; Best Local Similarity 53.4%; Pred. No. 4.3e-24; Matches 101; Conservative 29; Mismatches 51; Indels 8; Gaps
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Scoring table:
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1: /cgn2_6/ptodata/1,
2: /cgn2_6/ptodata/1,
3: /cgn2_6/ptodata/1,
4: /cgn2_6/ptodata/1,
5: /cgn2_6/ptodata/1,
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Patent No. 6391606

GENERAL INFORMATION:
APPLICANT: GUEGLER, Karl et al
APPLICANTON: NUCLEIC ACID MOLECULES ENCODING HUMAN PHOSPHOLIPASE
TITLE OF INVENTION: PROTEINS, AND USES THEREOF
FILE REFERENCE: CL000849
CURRENT APPLICATION NUMBER: US/09/738,884
CURRENT APPLICATION GUES: 2000-12-18
NUMBER OF SEO ID NOS: 5
SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 4
LENGTH: 744
TYPE: PRT
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                                                                                                                                                                                                                                                                                        DHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLES
                                                                          HNTYLLEDQLTGPSSTEAYIRALCKGCRCLELDCWDGPNQEPIIYHGYTFTSKILFYDVL
                                                                                                              HNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVI 396
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US-09-219-849-50
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US-08-963-825-18
US-09-500-811-18
US-09-570-573-18
US-09-585-887-9
US-09-289-578-9
US-09-289-570-573-30
US-08-931-820-30
US-09-500-811-20
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Indels 144;

Gaps

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Sequence 2, Application US/09738884
Patent No. 6391606
GENERAL INFORMATION:
APPLICANT: GUEGLER, Karl et al
TIPLE OF INVENTION: ISOLATED HUMAN PHOSPHOLI:
TIPLE OF INVENTION: PROTEINS, AND USES THER.
TIPLE OF INVENTION: PROTEINS, AND USES THER.
FILE REFERENCE: CL000849
CURRENT APPLICATION NUMBER: US/09/738,884
CURRENT FILING DATE: 2000-12-18
NUMBER OF SEQ ID NOS: 5
SOFTMARE: FastSEQ for Windows Version 4.0
SEQ ID NO 2
LENGTH: 736
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           221 TLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDI 280
                                                      126 QRERL-DHWIHSYLHRADSNQDSKMSFKEIKSLLRMVNVDMNDMYAYLLFKECDHSNNDR 184
                                                                                                                                                                       101 SEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWYTGLRYLMAGISDEDSLA 160
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                                                                                                RRORTROQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQG 220
                                                                                                                                           SEGLRRE-GGAFAPARCLTIAFKGRRKNLDLAAPTAEEAQRWVRGLTKLRARL---DAMS 125
                                                                                                                                                                                                                                AMLRGSRLRKIRSRTWHKERLYRLQEDGLSV-WFQRRIPRAPSQHIFFVQHIEAVREGHQ 69
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                                                                                                                                                                                                                                                                                                                                Conservative 129;
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                                                                                                                                                                                                                                                                                                                                                       20.0%;
                                                                                                                                                                                                                                                                                                                  Score 1278.5; DB 4; Length 736;
Pred. No. 3.7e-90;
Pred. No. 3.7e-90; Indels 159; Gaps
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                                                                     Matches 308;
                                                                                                         Query Match
                                                                                                                                                                                                                            SEQ ID NO 5
                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 5, Application US/09738884 Patent No. 6391606
                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/09/738,884
CURRENT FILING DATE: 2000-12-18
                                                                                                                                                                                                                                                            NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                   FILE REFERENCE: CL000849
                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: GUEGLER,
                                                                                                                                                                                                                                          SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                TYPE: PRT
ORGANISM: Mus musculus
                                                                                                                                                                                                         LENGTH: 744
44 AMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRK----NEKAKISIDSIQEVSEGR 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         716 SKDGASLSPATLFIQIRI 733
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                                                                                     Local Similarity
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                                                         19.8%; Score 1262; DB 4; ilarity 35.9%; Pred. No. 7.1e-89; Conservative 128; Mismatches 274;
                                                                                                                                                                                                                                                                                                                                                  ISOLATED HUMAN PHOSPHOLIPASE PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN PHOSPHOLIPASE
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                                                                                                 Length 744;
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                                                                                                                                                                                                         RESULT 4
US-08-138-641-2
US-08-138-641-2
; Sequence 2, Application US/08138641
; Patent No. 5474921
; Patent No. 5474921
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                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                         APPLICANT: Koblan, Kenneth S.
APPLICANT: Pompliano, David L.
TITLE OF INVENTION: ASSAY TO DETERMINE INHIBITORS OF
TITLE OF INVENTION: PHOSPHOINOSITIDE-SPECIFIC PHOSPHOLIPASE C-GAMMA
                                                              NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          511 NTAKRKLDSLIKESKIRDCEDPNNFSYSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGR 570
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  688 NYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSE 745
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                   ADDRESSEE: David A. Muthard STREET: P.O. Box 2000, 126 I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ARRORTROQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREAD----TD 216
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQK--MAGVTL 274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DQRQKLQ-HWIHSCLRKADKNKDNKMNFKEVKDFLKELNVQVDDSYARKIFRECDHSQTD 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RTEGLEKFA-RDIPEDRCFSIVFKDQRNTLDLIAPSPADVQHWVQGLRKI---IDRSGSM 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PQMLKGKILVKGKK----LPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVE 510
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYLE 864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SVATHDIEMEAASS----WQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSS 687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PEQLKEKILLKGKKLGGLLPAGGENGPEATDVSDEDEAAEMEDEAV-----RSQVQ
                                                                                                                                                                                                                                                                                                                                                              SKNGDLHPSATLFVKISI 743
                                                                                                                                                                                                                                                                                                                                                                                                                                                       NNGFNPRWDTEFEFVVAVPDLALVRFMVEDYDSSSKNDFIGQSTIPWNSLKQGYRHVHLL 725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TQGPWWAPKKLRVWIISGQQLPKVNK----NKNSIVDPKVIVEIHGVGQDVASRQTAVIT 665
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Rahway
                     126 E. Lincoln Avenue
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ZIP: 07065
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: 18
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       118 KTLSLQATSEDEVNMWIKGLTWLM-----EDTLQAATPLQIERWLRKQFYSVDRNREDRI 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  127 ESLDLVSTSSEVARTWVTGLRYLMAGISDEDSL-ARRORTRDQWLKQTFDEADKNGDGSL 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            242 LLML----TYSNHKDHLDAASLQRF-------LQVEQKMAGVTLESCQDII 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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  530
                                                                                                                                                                                                                 458 KILIKHKKLAEGSAYEEVPTSVMYSENDISNSIKNGILYLEDPVNHEWYPHYFVLTSSKI 517
                                                                                                                                                                                                                                                             461 KILVKGKKLPA------NISEDAEEG----
                                                                                                                                                                                                                                                                                                                                                                                                                                   341 LVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETIN 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       74 IRWRPSRKNEKAKISID--SIQEVSEGRQSEVFQRY-PDGSF--DPNCCFSIYHGS--HR 126
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TOPOLOGY: lir
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION: 435
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER:
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                                           578 APDGSFLVRESETFVGDYTLSFWRNGKVQHCRIHSRQDAGTPKFFLTDNLVFDSLYDLIT 637
                                                                                                                             518 YYSEETSSDQGNEDEEEPKEASGSTELHSSEKWFHGKLGAGRDGRHIAERLLTEYCIETG 577
                                                                                                                                                                        481 --- EVSDEDSADEIDDDCKLLNGDASTNRKRV------ENTAKRKLDS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                          KYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKG 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ITW--SRGADKIEGSIDIREIKEIRPGKTSRDFDRYQEDPAFRPDQSHCFVILYGMEFRL 117
                                                                                                                                                                                                                                                                                                                                                                                          LTGDQFSSESSLEAYARCLRMGCRCIELDCWDGPDGMPVIYHGHTLTTKIKFSDVLHTIK 398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EPY-----FFLDELVTFLFSKENSVWNSQLDAVCPETMNNPLSHYWISSSHNTY 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHV-HQDMTQPLSHYFITSSHNTY 340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LPFLETNTLRTGERPELCQVSLSEFQQFLLEYQGELWAVDRLQVQEFMLSFLRDPLREIE 289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SAKDLKNMLSQVNYRVPNMR----FLRERLIDFEQRSGDITYGQFAQLYRSLMYSAQKTMD 229
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                                                                                                                                                                                                                                                                                                      EHAFVASEYPVILSIEDHCSIAQQRNMAQHFRKVLGDTL-LTKPVDIAADGLPSPNQLKR 457
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	CLASSIFICATION: 514 ATTORNEY/AGENT INFORMATION: NAME: MUTHARD, DAVID A. REGISTRATION NUMBER: 35,297 REFERENCE/DOCKET NUMBER: 18938 FELECOMMUNICATION INFORMATION:	ON DATA: BER: US/08/138,133	COMPUTER: 1BM PC Compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, Version #1.25	OMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk	STATE: NEW JERSEY COUNTRY: U.S.A. ZIP: 07065	- · · ·	RRESPONDENCE ADDRESS: ADDRESSEE: DAVID A MITTHARD	TITLE OF INVENTION: INHIBITORS OF PHOSPHOINOSITIDE-SPECIFIC TITLE OF INVENTION: PHOSPHOLIPASE C	LICANT: MACLEOD, ANGUS M. LICANT: MERCHANT, KEVIN J.	APPLICANT: GIBBS, JACKSON B. APPLICANT: KOBLAN, KENNETH S.	5519163 FORMATION:	8-133-2 ce 2, Application US/08138133		9 DONFLAQATFPVKGLKTGYRAVPLKNNYSEDLELASLLIKIDI 1211	-RDFIGQRTLAFSSMMPGYRHVYLEGMEEASIFVHYAV 877	9 CPEVEIEVAGAEYDSTKOKTEFVVDNGLNPVWPAKPFHFQISNPBEFAFLREVVYXEEDMFS 1168	DEFVEVEITGLEVDCSREGTRYVIDNGRAPARTAL - BERT LEGINITHE IN THE STORY - IN THE STORY	ANGGCGYVLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEII			LTEGKMMERR-KKIALELSELVVYCRPVPFDEEKIGTERACYRDMSSFPETKAEKYVNKA	QSRGATRQKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQ-			:				RYPI		638 HYQQVPLRCNEFEMRLSEPVPQTNAHESKEWYHASLTRAQAEHMLMRVPRDGAFLVRKRN 697
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MOLECULE TYPE: protein S-08-138-133-2
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Best Local Similarity
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TELEFAX: (908) 594-4720
INFORMATION FOR EEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 1290 amino acids
817 IIQNVEKQDGGWWRGDYGGKKQLWFPSNYVEEMINPAILEPEREHLDENSPLGDLLRGVL 876
                                                                                                                                           560 -----EDAGASR-----
                                                                                                                                                                                                                                                                                    698 EPNSYAIS-FRAEGKIKHCRVQQEGQTVMLGNSEFDSLVDLISYYEKHPLYRKMKLRYPI 756
                                                                                                                                                                                                                                                                                                                                                                                       638 HYQQVPLRCNEFEMRLSEPVPQTNAHESKEWYHASLTRAQAEHMLMRVPRDGAFLVRKRN 697
                                                                                                                                                                            757 NEEALEKIGTAEPDYGALYEGRNPGFYVEANPMPTFKCAVKALFDYKAQREDELTFTKSA 816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      520 -----LIKES------KIRDC-----KIRDC-----
                                                                                                                                                                                                                                                                                                                                                   531 DPNNFSVSTLSPSGK------
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    518 YYSEETSSDQGNEDEEEPKEASGSTELHSSEKWFHGKLGAGRDGRHIAERLLTEYCIETG 577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481 ---EVSDEDSADEIDDDCKLLNGDASTNRKRV------ENTAKRKLDS----- 519
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               173 SAKDLKNMLSQVNYRVPNMR----FLRERLTDFEQRSGDITYGQFAQLYRSLMYSAQKTMD 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       290 EPY-----FFLDELVTFLFSKENSVWNSQLDAVCPETMNNPLSHYWISSSHNTY 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     282 EQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHV-HQDMTQPLSHYFITSSHNTY 340
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 118 KTLSLQATSEDEVNMWIKGLTWLM-----EDTLQAATPLQIERWLRKQFYSVDRNREDRI 172
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60 ITW--SRGADKIEGSIDIREIKEIRPGKTSRDFDRYQEDPAFRPDQSHCFVILYGMEFRL 117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          74 IRWRPSRKNEKAKISID--SIQEVSEGRQSEVFQRY-PDGSF--DPNCCFSIYHGS--HR 126
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STRANDEDNESS: sin
TOPOLOGY: linear
                                                                                                                                                                                                                                   Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 3.0%; Score 192; DB 4; Length 2972; Best Local Similarity 19.6%; Pred. No. 2.4e-05; Matches 187; Conservative 121; Mismatches 326; Indels 318;
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LENGTH: 2972
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Chrivia, John APPLICANT: Yaciuk, Peter TITLE OF INVENTION: SNF2 REFILE REFERENCE: 16153-4247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/579,181
CURRENT FILING DATE: 2000-05-25
PRIOR APPLICATION NUMBER: 60/136,620
PRIOR FILING DATE: 1999-05-27
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                                                                                                                                                                                                                           344 DEEEEDDDFGVEYLLARDEEQSE-----ADAGSGPPTPGPTTLGPKKEITDIAAAAES 396
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                                        ISLLAHLACEKGNWGPHLIIVPTSVMLNWEMELKRWCPSFKILTYYGAQKERKLKRQGWT 516
                                                                                                                                   LQPKGYTLATTQVKTPIPLLLRGQLREYQHIGLDWLVTMYEKKLNGILADEMGLGKTIQT 456
                                                                                                                                                                                                                                                                                                                      EAEEPPQEDSSSQS-DSV--EDRSEDEEDEHSEEEETSGSSASEESESEESEDAQSQSQA 343
                                                                                                                                                                                                                                                                                                                                                              STNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDA 562
                                                                                     HDI-----SETKA-----
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  -HQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQ----- 692
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SEQ ID NO 1
LENGTH: 3118
TYPE: PRT
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APPLICANT: Chrivia, John
APPLICANT: Yaciuk, Peter
APPLICANT: Yaciuk, Peter
TITLE OF INVENTION: SNF2 Related CBP Activator Protein (SRCAP)
FILE REFERENCE: 16153-4247
FILE REFERENCE: 16153-4247
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                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 187; Conserv
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CURRENT FILING DATE: 2000-05-25
PRIOR APPLICATION NUMBER: 60/136,620
PRIOR FILING DATE: 1999-05-27
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377 --- DHAMELSELAREGELSMEELLQQYAGAYAPGSGSSEDEDEDEVDANSSDCE-PEGPV 432
                                                   465 KGKKLPANISEDAEEGEVS-----
                                                                                                 319 EEEPPQVLEIKPPPSAVTQRNKQPWHPDEDDEEFTANEEEAEDEEDTIAAEEQLEGEV-- 376
                                                                                                                                                  406 KNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSED-ATTLPSPQMLKGKILV 464
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                                                                                                                                                                                                        Conservative 121; Mismatches 326;
                                                                                                                                                                                                                                3.0%; Score 192; DB 4; Length 3118; 19.6%; Pred. No. 2.6e-05;
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Patent No. 6150081
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APPLICANT:
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  TITLE OF INVENTION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              603 ISLLAHLACEKGNWGPHLIIVFTSVMLNWEMELKRWCPSFKILTYYGAQKERKLKRQGWT 662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     635 HDI-----SETKA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           543 LQPKGYTLATTQVKTPIPLLLRGQLREYQHIGLDWLYTMYEKKLNGILADEMGLGKTIQT
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                                                                                                                                                                                                                                                                                                                                              LILSPDMQARLPSGEVVSIGQL-----ASLAQR-----PVANAGGSKPL 1156
                                                                                                                                                                                                                                                                                                                                                                                    ------RWPEGACRQPGALQGEMSALFAQKLEEIRSKSPMFSAG--KPL 1153
                                                                                                                                                                                                                                                                                                                                                                                                                       APPPGSSSLLKPLTVP------PG-YTFPPAAATTTSTTTATATTTAVPAPTPAPQR 1117
                                                                                                                                                                                                                                                                                                                                                                                                                                                              APCCG----LDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSPDSPGIPERSP----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RVLDGPGPAGMAATCMKCVVGSCAGVNTGGLQRERPPSPGPASRQAAIRQQPRARADSLG 1060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PLQPNSG-----SLPQVLPSPLGVLSG---TSRPPTP----TLSLKPTPPAPVRLSP 1067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----VPVRPPPGPELSAQPTPGPVPQVLPASLMVSASPAG-PPLIPASRPPGPVLLP 1022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KGVADDVVPPGPGPAPEAPAQEGPG------SGSPRGKAPAAVAEKSPVRVRPP 1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SRRVLLEVATAPDPPPRPKPVKMKVNRMLQPVP----KQEGRTVVVVNNPRAPLGP----- 970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GR------GFPELVLGTRDTGS 952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ICFSTASLVLRATDVHPLQRIDM------GRF-DLIGLEGRVSRYEADTFLPRHRL 918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LAFSSMMPGYRHVYLEGMEEASIFVHVAVSDISGKVKQALGLKGLFLRGPKPGSLDSHAA 908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SKRQRCLYDDFMAQTTTKETLATGHFMSVINILMQLRKVCNHPNLFDPRPVTSPFI-TPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SREQTRYVDDNGENPTWEETLVFMVHMPEIALVRFL-----VWDHDPIGRDFIGQRT 848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EAEEPPQEDSSSQS-DSV--EDRSEDEEDEHSEEEETSGSSASEESESEESEDAQSQSQA 489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRG-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDA 562
                                                                                                                               VAN HEERDE, GEORGE V.
VAN RIJN, ALEXIS C.
BOUWSTRA, JAN B.
DE WOLF, FREDERIK A.
      WIND, RICHELE D.

VAN DEN BOSCH, TANJA J.

VENTION: SILVER HALIDE EMULSIONS WITH RECOMBINANT COLLAGEN

VENTION: SUITABLE FOR PHOTOGRAPHIC APPLICATION AND ALSO THE
                                                                                                                MOOBROEK, ANDREAS
                                                                                            WERTEN, MARC W.T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -ATROKKT------634
PREPARATION THEREOF
                                                                                                                                                                                              GEORGE V.
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SEQ ID NO 5
LENGTH: 960
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 62, Application US/08642255 Patent No. 5773249 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
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CURRENT APPLICATION NUMBER: US/09/219,849
CURRENT FILING DATE: 1998-12-23
NUMBER OF SEQ ID NOS: 50
                                                    REFERENCE/DOCKET NUMBER: A55556-3/BIR TELECOMMUNICATION INFORMATION:
                                                                                                           CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: ROWLAND, Bertram I
                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: CAPPELLO, JOSEPH
APPLICANT: FERRARI, Franco A.
TITLE OF INVENTION: High Molecular Weight Collagen-Like
TITLE OF INVENTION: Protein Polymers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION: OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                             CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES:
TELEFAX: 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1124 ALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAG-----PGSPAA 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1064 CGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSPDSPGIPERSPRWPEGACRQPG 112:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1004 DGPGPAGMAATCMKCYVGSCAGVNTGGLQRERPPSPGPASRQAAIRQQPRARADSLGAPC 1063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    924 P----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   841
                                       TELEPHONE:
                                                                                       REGISTRATION NUMBER: 20,015
                                                                                                                                                                        FILING DATE
                                                                                                                                                                                                                                                                                                                                                                       STREET: 4 Embarcage:
CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            784 RDPGPPGAPGPAGPPGSRDPGP-PGAPGPAGPPGSRDP--GPPGAPGPAGPPGSRDPGPP 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             948 RDTGSKGVADDVVPPG---PGPAPEAPAQEG-PGSGSPRGKAPAAVAEKSPVRVRPPRVL 1003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    736 GPKGAPGPAGPPGSRDPGPPGAPGPAGPPGSR-----DPGPPGAPGPAGPP----GS 783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       897 GPK-----PGSLDSHAAGRP-PARPSVSQRILRRTASAPTKSQKPGRRGFPELVLGT 947
                                                                                                                                                                                         APPLICATION NUMBER:
                                                                                                                                                                                                                            SOFTWARE:
                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                        COUNTRY: USA
ZIP: 94111-4187
                                                                                                                                                                                                                                                                                                                                                               STATE:
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Similarity 30.4%;
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                                                                                                                                                                                                                                                                                                                                                               California
                                                                                                                                                                                                                                                                                                                                                                                           E: FLEHR, HOHBACH, TEST, ALBRITTON & HERBERT 4 Embarcadero Center, Suite 3400
     (415) 494-8771
10 277299 FHT (
                                                                                                                                                                                                                         PatentIn Release #1.0, Version
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                                         (415) 494-8700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            amino acid sequence
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                                                                                                                                                                                         US/08/642,255
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 1, Application US/08931820 Patent No. 6010863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO:
Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                               APPLICATION NUMBER: EN FILING DATE: INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 1064 amino aci
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1108 PERSPRWPEGACRQPGALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAG 1167
                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: Patentin Release #1.0, Version #1.25 (EPO) CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1050 QQPRARAD--SLGAPCCGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSPDSPGI 1107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: Assay for collagen degradation NUMBER OF SEQUENCES: 4
                                                                                   ANTI-SENSE: NO ORIGINAL SOURCE:
                                                                                                                    HYPOTHETICAL:
                                                                                                                                         MOLECULE TYPE:
                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                         CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         990 AEKSPVRVRPPRVLDGPGPAGMAATCMKCVVGSCAGVNTGGLQRERPPSPGPASRQAAIR 1049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             828 PGPAGPPGSRGDPGPPGAPGPPGSRGDPGPPGAPGPAGPPGSRGDPGPPGAPGPAG- 886
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                               MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                 ORGANISM: HO
                                                                                                                                                              TOPOLOGY:
                                                                                                                                                                             STRANDEDNESS:
                                                                                                                                                                                            TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                             FILING DATE:
                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER:
                                                                                                                                                                                                             LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ----PAGPPGSRGDPGPPGAPGPA---
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                                                                      Homo sapiens
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                                                   Collagen type I
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2.8%; Score 180;
                                                                                                                                                                                                                                                                                         EP 96202596.1
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 В
Length 1057;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 4, Application US/08906865
Patent No. 6040168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                  TELEFAX: 201-343-1684
INFORMATION FOR SEQ ID NO: 4:
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                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: PatentIn Reli
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: DNA ENCODING THE HUMAN SYNAPSIN III GENE TITLE OF INVENTION: AND USES THEREOF
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                                                                                                                                                                                                                         TELECOMMUNICATION INFORMATION: TELEPHONE: 201-487-5800
                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
NAME: Jackson Esq., Davi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  816 GPSGEPG--KQGPSGASGERGPP----GPMGPPGLA--GPPGESGREGAPGAEGSPGRDG 867
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ORIGINAL SOURCE:
                                   MOLECULE TYPE:
DESCRIPTION:
                                                                                                                                                              SEQUENCE CHARACTERISTICS:
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                 HYPOTHETICAL:
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                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                             TOPOLOGY:
                                                                                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                     NAME: Jackson Esq., David A. REGISTRATION NUMBER: 26,742
                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY: UZIP: 07601
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RESULT 12
US-09-129-668-4
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                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                         Sequence 4, Application US/09129668B Patent No. 6429010
                                                                                                                              APPLICANT: Greengard, Paul
APPLICANT: Porton, Barbara
APPLICANT: Kao, Hung-Teh
TITLE OF INVENTION: DAN ENCODING THE HUMAN SYNAPSIN III GENE AND USES
TITLE OF INVENTION: THERROOF
                                         CURRENT APPLICATION NUMBER: US/09/129,668B
CURRENT FILING DATE: 1998-08-05
EARLIER APPLICATION NUMBER: 08/906,865
EARLIER FILING DATE: 1997-08-06
NUMBER OF SEQ ID NOS: 8 SOFTWARE: PatentIn Ver. 2.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               634 TH----DIEMEAASSWQVSSFSETK--AH-------QIIQQKPAQYLRENQQ 672
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RESULT 13
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; LENGTH: 696
                                                                                                                                                                                                    Sequence 61, Application US/08642255 Patent No. 5773249 GENERAL INFORMATION:
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                                                                                                 APPLICANT: CAPPELLO, Joseph
APPLICANT: FERRARI, Franco A.
TITLE OF INVENTION: High Molecular Weight Collagen-Like
TITLE OF INVENTION: Protein Polymers
                                                                  CORRESPONDENCE ADDRESS
                                                                                       NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                  1108 PERSPRWPEGACROPGALOGEMSALFAOKLEEIRSKSPMFSA 1149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1012 A----ATCMKCVVG----SCAGVNTGGLQRERPPS--PGPA--SRQAA------I 1048
                                                                                                                                                                                                                                                                                                                                                       664 PEPAP-----PRPSLSQDEV-----KAETIRSLRKSFAS 692
                                                                                                                                                                                                                                                                                                                                                                                                                                               618 TOOPRPSGPGPAGAP----KPQLAQKPSQDVPPPATAAAGGP----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       501 GSPLPQRLPSPTSAPQQPASQAAPPTQGQGRQSRPVAGGFGAPPAARPPA---SPSPQRQ 557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    957 DDVVP----PGPGPAPEAPAQEG---PGSGSPRGKAPAAVAEKSPVRVRPPRVLDGPGPAGM 1011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             914
STREET: 4 Embarcade
CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              774 LGDRGEI------IDPFVE-----VEIIGLPVDCSREQTRVVDDNGFNPTWEE 815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      285 QHDFQDIASYVALTKTYATAEPFIDAKYDVRVQKIG-----QNYKAYMRTSVSGNW-K 336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           238 KLGTEEFP------LIDQTFYPNHKEMLSSTTYPVVVKMGHAHSGMGKVKVDN 284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      714 QLNRAKFSANGGCGYYLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSM 773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   189 AFSMARNGDYRSLVIGLQYAGIPSVNSLHSVYNFCDKPWVF----AQMVRLH-----K 237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         673 QLSRIYPSSYR-------VDS--SNYN----PQPFWNAGCQMVALNYQSEGRML 713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           135 IHGEIDIKVEQA-----EFSDLNLVAHANGGFSVDMEVLRNGVKVVRSLKPDFVLIRQH 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   634 TH---DIEMEAASSWQVSSFSETK--AH------QILQQKPAQYLRFNQQ 672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           574 GSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA 633
                                          ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                75 GFFSSLSNAVKQTTAAAAATFSEQVGGGGGGGGGGGAGRCLLVIDEPHTDWAKYFKGKK 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        y Match 2.8%; Score 179; DB 4; Length 696;
Local Similarity 21.7%; Pred. No. 2.7e-05;
hes 152; Conservative 74; Mismatches 266; Indels 210;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGPPQATRQTSVSGPAPPKASGAPPGGQQRQGPPQKPPGPAGPTRQASQAGPVPRTGPPT 617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ALPLGRQTSQQPAGPPAQQEPPPQGGPPQPGPGPQRQGPPLQQRPPPQGQQHLSGLGPPA 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RPSVSQRILRTASAPTKSQKPGRRGFPELVLGTRDTGS------KGV---A 956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----LIGDHQDEDKQLIVELVVN-----KMAQALPRQRQRDASPGR-GSHGQTPSPG 440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GYRHVYLEG---MEEASIFVHVAVSDISGKVKQALGLKGLFLRGPKPGSLDSHAAGRPPA 913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TNTGSAMLEQIAMSDRYKLWVDTCSEIFGGLDICAVEALHGKDGRDHIIE---VVGSSMP 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E: FLEHR, HOHBACH, TEST, ALBRITTON & HERBERT 4 Embarcadero Center, Suite 3400
                                                                                                                                                                                                                                                                                                                                                                                                                                               PHPQLFNL 663
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US-08-931-820-4
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                                                                                                                                                                                                                                                                                                                   Sequence 4, Application US/08931820 Patent No. 6010863
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE: (415) 494-8700
TELEFAX: (415) 494-8771
TELEX: 910 277299 FHT UR
INFORMATION FOR SEQ ID NO: 61:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REGISTRATION NUMBER: 20,015
REFERENCE/DOCKET NUMBER: A55556-3/BIR
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: ROWLAND, Bertram I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION DATA:
                                                                                                    COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOTWARE: Patentin Release #1.0, Version #1.25 (EPO)
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1124 ALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAGP----GSPAAASA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1064 CGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSPDSPGIPERSPRWPEGACRQPG 1123
                                                                                                                                                                                                             TITLE OF INVENTION: AS:
NUMBER OF SEQUENCES: 4
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1006 PGPAGMAATCMKCVVGSCAGVNTGGLQRERPPSPGPASRQAAIRQQPRARAD--SLGAPC 1063
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  955 VADDVVPPG----PGPAPEAPAQEG-PGS----GSPRGKAPAAVAEKSPVRVRPPRVLDG 1005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     897 GPK--PGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPELVLGTRDTGSKG 954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/08/642,255 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              56 APGPAGPPGSRGDPGP-PGAPGPAGPPGSRGDPGPPGAPGPAG------PPGSRGD 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            16 GPKGAPG-----PAGPPGSRGDPG-----PPGAPGPPGSRG-----DPGPPG 55
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                                                                  FILING DATE:
                                                                                    APPLICATION NUMBER:
                                                                                                                                                                                           MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                     PPGAPGPA------GPPGSRGDP-----GPPGAPGPAGPPGSRGDPGPPGA 236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ---GPAGPPG-SRGDPGPPGA--PGPAGPPGSRGDPGPPGAPG-----PAGPPGSRGDPG 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PGPPGAPGP-----AGPPGSRGDPGPPGAPGPAG-----PPGSRGDPGPPGAP- 147
                                                                                                                                                                                                                                                                                                 INFORMATION:
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                                                                                                                                                                                           Floppy disk
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                                                                                                                                                                                                                                                       Assay for collagen degradation
                                                                                      US/08/931,820
    EP 96202596.1
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                                           ; ORGANISM: Nephila clavipes US-09-247-806-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 2, Application US/09247806 Patent No. 6280747
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                                                                                                             SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 2
LENGTH: 529
Query Match
                                                                                                                                                                                                   APPLICANT: PHILLIPPE, Michel
APPLICANT: GRASON, Jean-Claude
APPLICANT: ARRAUDEBU, Jean-Pierre
APPLICANT: ARRAUDEBU, Jean-Pierre
TITLE OF INVENTION: COSMETIC OR DERMATOLOGICAL COMPOSITION CONTACTING A
TITLE OF INVENTION: LEAST ONE NATURAL OR RECOMBINANT SPIDER SILK OR AN
TITLE OF INVENTION: ANALOG
FILE REFERENCE: 6388-0365-0
CURRENT APPLICATION NUMBER: US/09/247,806
CURRENT FILING DATE: 1999-02-11
EARLIER APPLICATION NUMBER: FR 98/01614
EARLIER FILING DATE: 1998-02-11
EARLIER FILING DATE: 1998-02-11
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INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                    NUMBER OF SEQ ID NOS: 14
                                                                                            TYPE: PRT
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LENGTH: 1057 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1094 SMSSDSSSPDSPGIP------ 1125
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         681 APGEKG---EGGPPG-----VAGPPGGSGPAGPPGPQGVKGERGSPGGPGAAGFPGARGL 732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 944 GDKGETGERGAAGIKGHRG----FPGN------PGAPGSPGPAGQQGAIGSPGPA 988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              885 D-RGENGSPGAPGAPGHPGPPGPVGPAGKSGDRGESGPAGPAGAPGPAGSRGAPGPQGPR 943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                784 KGSPGAQGPP---GAPGPLGI-------AGI-TGARGLAGPPGMPGPRGSPGP-- 825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              991 EKSPVRVRPPRVLDGPGPAGMAATCMKCVVGSCAGVNTGGLQRERPP-----SPGPAS 1043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTHER INFORMATION: /label= modified OTHER INFORMATION: /note= "Ala may be Pro"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE TYPE: Collagen type
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STRANDEDNESS: sir
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -- QGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAGP-----GSPAAA 1174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -QGVKGESGKPGANGLSGERGPPGPQGLPGLAGTAGEPGRDGNPGSDGLPGRDGSPGGKG 884
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    Score 175.5;
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    DB
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Search completed: March 28, 2003, 13:53:14  Job time : 43 secs	7 1152 PLLPCVVLPHAPGMAGPGSPAAASAWTVSP 1181 1	Y 1099 SSSPDSPGIPERSPRWPEGACROPGALQGEMSALFAQKLEEIRSKSPMFSAGK 1151 ::	1039 159	y 996 RVRPPRVLDGPGPAGMAATCMKCVVGSCAGVNTG	Y 941 PELVLGTRDTGSKGYADDVVPPGPGPAPEAPAQEGPGSGSPRGKAPAAVAEKSPV 995   1	Y 882 GKVKQALGLKGLELRGPK-PGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGF 940	Best Local Similarity 25.6%; Pred. No. 3.3e-05; Matches 85; Conservative 30; Mismatches 132; Indels 85; Gaps 13;

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OM protein - protein search, using sw model
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 2000000000
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SPTREMBL_21:*

Sp_archea:*

sp_bacteria

sp_bacteria

sp_fungi:*

sp_human:*

sp_invert

sp_namma)

sp_invert

sp_mac;

sp_mac;

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sp_bacteria:*
sp_fungi:*
                 sp_virus:*
sp_vertebrate:*
sp_unclassified:*
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sp_mammal:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

16	15	14	13	12	11	10	9	8	7	0	s	4	w	N		Result	
1271	1281	1287	1289	1294	1297	1315.5	1441	1463	1517	1524.5	1578	1583.5	1587.5	2343	3450	Score	
19.9	20.1	20.2	20.2	20.3	20.3	20.6	22.6	22.9	23.8	23.9	24.7	24.8	24.9	36.7	54.1	Query Match	æ
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13.8 13.8	13.9	14.4	14.4	14.5	14.5	14.6	14.7	14.7	14.7	14.8	14.8	14.8	15.0	15.1	15.5	15.5	15.6	15.7	16.9	17.1	17.2	17.3	17.4	18.2	19.7	19.8	19.9
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Q22070 caenorhabdi		092137 xenopus tae	Q9u4g4 drosophila	Q95x29 caenornabd1							mus	mus	homo	Q96j70 homo sapien			097034 ephydatia i	Q91uzl mus musculu	097037 hydra magni	Q95js0 macaca tasc				Q96fl6 homo sapien		1 mus	mus

## ALIGNMENTS

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121 QQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLK 180	672 QQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLK 731		612 OKKTMKI.SRALSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQ 671	1 AEEEMESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATR 60	552 AEEDVESGEDAGASRRNGRLYVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATR 611	Query Match 54.1%; Score 3450; DB 4; Length 656; Best Local Similarity 99.5%; Pred. No. 9.5e-210; Matches 653; Conservative 2; Mismatches 1; Indels 0; Gaps	SEQUENCE 656 AA; 70138 MW; LEGOUSBOABU/FILM CKC04;		EMBL; AK074149; BAB84975.1;	spieen."; cubmitted (Tan-2002) to the EMBL/GenBank/DDBJ databases.	"The nucleotide sequence of a long cDNA clone isolated ifon number	ano J., Nomura N., Kikuno R., Nagase T.,		SEQUIENCE FROM N.A.	NCBI_TaxID=9606;	ia; Primates;	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;	TIPO 1934 (United)	FLJ00222 protein (Fragment).	(TrEMBLrel. 21,	O1-JUN-2002 (TEEMBLEEL: 21, Created)		Q8TEH5 PRELIMINARY; PRT; 656 AA.	

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RESULT 2
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              PRINTS; PR00360; C2DOMAIN.
PRINTS; PR00390; PHPHLIPASEC.
ProDom; PD001202; PL_PLC_Y; 1.
SMART; SM00239; C2; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
                                                                                                                                                                                                                       Kikuno R., Nagase T., Ishikawa K., Hirosawa M., Miyajima N., Tanaka A., Kotani H., Nomura N., Ohara O.;
Prediction of the coding sequences of unidentified human generate complete sequences of 100 new cDNA clones from brain which the complete sequences of 100 new cDNA clones from brain which have been proteins in vitro.";
DNA Res. 6:197-205(1999)
DNA Res. 6:197-205(1999)
DNA Res. 6:197-205(1999)
DNA Res. 6:197-205(1999)
                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                              InterPro; IPR000008; C2.
InterPro; IPR001192; PI_PLC.
InterPro; IPR00909; PI_PLC_Xdom.
InterPro; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                            MEDLINE=99397452; PubMed=10470851;
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01-MAY-2000 (TREMBLIFE: 13,
01-JUN-2002 (TREMBLIFE: 21,
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PROSITE; PS50004; C2_DOMAIN_2; 1.
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                                                                                                  PF00168; C2; 1.
PF00388; PI-PLC-X; 1.
PF00387; PI-PLC-Y; 1.
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Last annotation update)
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                                        Q9QYG1 PRELIMINARY;
Q9QYG1;
01-MAY-2000 (TrEMBLrel. 13, C)
01-MAY-2000 (TrEMBLrel. 13, L)
01-UN-2002 (TrEMBLrel. 21, L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches 458;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local
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PROSITE;
NON_TER
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                                                                                                                                                                                                                                                                                                                                                                                                                      712 MLQLINRAKFSANGGCGYVLKPGCMCQGVFNDNSEDPLPGQLKKQLVLRIISGQQLPKPRD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    356 EEDTQQSTGKEGGQLYRLGRRRKTMKLCRELSDLVVYTNSVAAQDI-VDDGTTGNVLSFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181 CSIQQQRKIAQYLKGIFGDKLDLSSVDTGECKQLPSPQSLKGKILVKGKKLPYHLGDDAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     299 DGFTNYTRSPAGDIFNPEHHVHODMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWV 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        239 DLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSKGLLGI 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      359
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 DLYLLLLSYSDKKDHLTVEELAQFLKVEQKMNNVTTDYCLDIIKKFEVSEENKVKNVLGI 60
                                                                                                                                                                                                                                                                                                                 LVWDHDPIGRDFIGORTLAFSSMMPGYRHYYLEGMEEASIFVHVAVSDISG------
                                                                                                                                                                                                                                                                                                                                                                SMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEETLVFMVHMPETALVRF
                                                                                                                                                                              GRKKSKMGFQEMV-EIKDSVSEATRD 737
                                                                                                                                                                                                         SQKPGRRGFPELVLGTRDTGSKGVAD 957
                                                                                                                                                                                                                                SYTILHFLGATKNRQLQGLKGLFNKNPRHSSSENNS--HYVRKRSIGDRILRRTASAPAK
                                                                                                                                                                                                                                                    LVWDHDPIGRDFVGQRTVTFSSLVPGYRHVYLEGLTEASIFVHITINEIYGKWSPLILNP
                                                                                                                                                                                                                                                                                                                                              SMFGDRGEIIDPFVEVEIIGLPVDCCKDQTRVVDDNGFNPVWEETLTFTVHMPEIALVRF
                                                                                                                                                                                                                                                                                                                                                                                                      MMQLNRAKFKANGNCGYVLKPQQMCKGTFNPFSGDPLPANPKKQLILKVISGQQLPKPPD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ETKAHOILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGR
                                                                                                                                                                                                                                                                                                                                                                                                                                                            RALLKATHEGLNAHLKOSPDVKESGK·----KSHGRSLMTNFGKHKKTTKSRSKSYSTDD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STLSPSGKLGRKS--KAEEDY-ESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GDEGODS---PGGQSRGATRQKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EGEVSDEDSADEIDDDCKL-LNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSV 537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKKLPANISEDAE 478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LQEGCRCVEVDCWDGPDGEPVVHHGYTLTSKILFRDVVETINKHAFVKNEEPVILSIENH 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EGEVSDEDSADEIEDECKFKLHYSNGTTEHQVESFIRKKLESLLKESQIRDKEDPDSFTV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EGFTNFMRSPACDIFNPLHHEVYQDMDQPLCNYYIASSHNTYLTGDQLLSQSKVDMYARV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       787 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     36.7%; Score 2343; DB 4; 61.4%; Pred. No. 1.2e-139;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             107;
                                                                           Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pred. No. 1.20
7; Mismatches 145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2EFC0355E4CDFC8D CRC64;
                                                                                                        1128 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 787;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;

Euteleostomi;

Last sequence up

update)

Last

Mus musculus (Mouse) PLCL2 OR PLCE2 OR PLC-L2. Phospholipase C-L2.

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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Interpro; IPR000008; C2.
Interpro; IPR001849; PH.
Interpro; IPR001192; PI_PLC.
Interpro; IPR0001909; PI_PLC_Xdom.
Interpro; IPR001711; PI_PLC_Y.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=10090;
[1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50003; PH_DOMAIN; 1.
PROSITE; PS50007; PPIDC_X_DOMAIN; 1.
PROSITE; PS50008; PIPUC_Y_DOMAIN; 1.
SEQUENCE 1128 AA; 125763 MW; 8598CC59D89ADCE5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SMART; SM00239; C2; 1.
SMART; SM00233; PH; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HSSP; P10688; 1QAS.
MGD; MGI:1352756; Plc12.
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EMBL; AB033615; BAA89457.1; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRINTS; PR00390; PHPHLIPASEC. ProDom; PD001202; PI_PLC_Y; 1.
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                                                                                                                             446
                                                                                                                                                                                                                                                                                                                                                          164
                                                                                                                                                                                                                                                                                                                                                                                                                                                        148 SELKKVRSNSRIYHRYFLLDADMQSLRWEPSKKDSEKAKIDIKSIKEVRTGKNTDIFR--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4 PTAGPLPGPALPP-----EDPGPDPESRWLFLSANILPVVER-----CMGAMQEG 48
                                                                                                                                                                                                                                                                                                                                                       -RTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREA-DTDDHQGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRK-NEKAKISIDSIQEVSEGRQSEVFQRY 107
                                                                                                                                                                                                                                                                                                                                                                                         SNGISEQISEDCAFSVIYGENYESLDLVANSADVANIWVTGLRYLISYGKHTLDMLESSQ
                                                                                                                                                                                                                                                                                                                         DNMRTSWISQMFSEIDVDGLGHITLCHAVQCIRNLNPGLKTSKIELKFKELHKSKDKAGT
                                                                                                                                                                                                                                                                                                                                                                                                                      PDG---SFDPNCCFSIYHGSHRESLDLVSTSSEVARTWYTGLRYLMA-GISDEDSLARRQ 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PAAGPVPRDSKPGGLPRRSSIIKDGTKOKRERKKTVSFSSMPTEKKISSASDCIHSMVEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PF00388; PI-PLC-X; 1.
PF00387; PI-PLC-Y; 1.
                              KILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSL 520
                                                                                  KYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKG 460
                                                                                                                             IEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTY 340
                                                                                                                                                                                                                                                          EITKEEFIEVFHELRTRPEIYFLLVQFSSNKEFLDTKDLMMFLEAEQGVAHINEEISLEI 385
                                                                                                                                                                                                                                                                                         -LGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDI
 KILIKAKKLSSNCS--GVEGDVTDEDEGAEM-----SQRMGKENV-----
                                                                 LVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETIN 400
                                                                                                                                                                                            IHKYEPSKEGQEKGWLSIDGFTNYLMSPDCYIFDPEHKKVCQDMKQPLSHYFINSSHNTY 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PF00168; C2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24.9%; Score 1587.5; DB 11; Length 1128; 36.5%; Pred. No. 1.1e-91;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         168; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           280; Indels 165; Gaps
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Best Local
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                                                                                                                                                                                                                  InterPro; IPRO00008; C2.
InterPro; IPR001711; PI_PLC_Y.
InterPro; IPR001711; PI_PLC_Y.
Pfam; PF00187; PI_PLC_Y; 1.
Pfam; PF00387; PI_PLC_Y; 1.
PRINTS; PR00360; C2DOMAIN.
PRODOM; PD001202; PI_PLC_Y; 1.
SMART; SM00239; C2; 1.
SMART; SM00239; C2; 1.
PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50008; PIPLC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                       Strausberg R.; submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases EMBL; BC019679; AAH19679.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-MAR-2002 (TrEMBLrel. 20, Created)
01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-UN-2002 (TrEMBLrel. 21, Last annotation update)
Hypothetical 75.7 kDa protein (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9SUW80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q8WUS6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              521 IKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRK 580
                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE-BRAIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          699
                                                                                                                                                                                      Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   816 FEFQINLPELAMVRFVVLDDDYIGDEFIGQYTIPFECLQTGYRHVPLQSLTGEVLAHASL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       817
                                                                                                                                                                      SEQUENCE 716 AA; 75724 MW; 148244B142852AB0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     931
                                                   697 AGCOMVALNYOSEGRMLOLNRAKFSANGGCGYVLKPGCMCOGVFNPNSEDPLPGQLKKOL 756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4
757 VLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEET 816
                                 1 AGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNSEDPLPGQLKKQL 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HIKIISGQNFPKPKGS--GAKGDVVDPYVYVEIHGIPADCAADRTKTVNQNGDAPIFDES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVATHD--IE 638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CQIVAMNFQTPGLMMDLNVGWFRQNGNCGYVLRPAIMREEVSFFSANTKDSVPGVSPQLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMVALNYQSEGRMLOLNRAKFSANGGCGYVLKPGCMCOGV--FNPNSEDPLPGOLKKOL 756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FQVQKYWEVCSFNEVLASKYANENPGDFVNYNKRFLARVFPSPMRIDSSNMNPQDFWKCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAG 698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LVFMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYL-----EGMEEASI 871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----EQPNHVPV----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FVHVAVSDISG-----
                                                                                                     350;
                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -----KRFQLCKELSELVSICKSVQFKEFQVS 637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                     24.8%; Score 1583.5; 61.5%; Pred. No. 1e-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----KVKQALGLKGLFLRGPKPGSLDS-HAAGRPPARP 915
                                                                                                    ; Pred. No. 1e-91; 19; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    716 AA
                                                                                                                                         DB 4; Length 716;
                                                                                                           101;
                                                                                                           indels
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                                                                                                           99; Gaps
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RESULT
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                                                                                                                                                                                              Rikuno R., Nagase T., Ishikawa K., Hirosawa M., Miyajima N., Tanaka A., Kotani H., Nomura N., Ohara O.;
Prediction of the coding sequences of unidentified human genes. XIV The complete sequences of 100 new cDNA clones from brain which code for large proteins in vitro.";
                                                                                                                                                                                                                                                                    TISSUE-BRAIN;
MEDLINE-99397452; PubMed-10470851;
                                                                                           nterPro; IPR001849; PH.
interPro; IPR001192; PI_PLC.
interPro; IPR009099; PI_PLC_Xdom.
interPro; IPR001711; PI_PLC_Y.
                                                                                                                                                                                             DNA Res.
                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo
                               RINTS;
                                                                                                                                                 nterPro; IPR000008; C2.
                                                                                                                                                                   HSSP;
                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                   KIAA1092
                                                                                                                                                                                                                                                                                                                                                                                                    01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                        KIAA1092 protein (Fragment).
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            P10688;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ----PAAASAWTVSPRVLVLVALYPWHCL 1195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LGLGRSRENLAGAHMGRLP------PRPHSASAARPDLPPVTKSKSNPNLRATGQ 511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPEGACRQ--PGALOGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHA-PGMAGPGS 1170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EPLGGWRPLAAPFPAPAVYSDATGSDPLWQRLEPCGHRDSVSSSSSMSSSDTVIDLSLPS
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                                                                                                                                                                            AB029015;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VSDISGKVKQALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPG
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                                                                                                                                                                          6:197-205(1999).
029015; BAA83044.1; -.
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SMART; SM00233; PH; 1.

SMART; SM00143; PLCYC; 1.

SMART; SM00149; PLCYC; 1.

PROSITE; PS50004; C2_DOMAIN_2; 1.

PROSITE; PS50007; PIPLC_X_DOMAIN; 1.

PROSITE; PS50008; PIPLC_Y_DOMAIN; 1.

PROSITE; PS50008; PIPLC_Y_DOMAIN; 1.
             800 QTRVVDDNGENPTWEETLVFMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYR
                                                                                                                                                                                          647
                                              707
                                                                                                                                                                                                           624 DLVKYTKSVATHD--IEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSS
                                                                                                                                                                                                                                                                                         564
                                                                                                                                                                                                                                                                                                                       620
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                                                                                                                                                                                                                                                                                                                                                                             575 PNVEE-SYLPSPDVLKGKILIKAKKLSSNCS--GVEGDVTDEDEGAEM------
                                                                                                                                                                                                                                                                                                                                                                                                          444 VSSEDATTLPSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDAS
                                                                                                                                                                                                                                                                                                                                                                                                                                          384 YTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     275 YLISYGKHTLDMLESSQDNMRTSWVSQMFSEIDVDNLGHITLCNAVQCIRNLNPGLKTSK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     91 SIQEVSEGRQSEVFQRYPDGSFD---PNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLR 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 38 VER-----CMGAMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRK-NEKAKISID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 97 ASPTRGPRGVALAPTPSAVVCTLPRESKPGGLPRRSSIIKDGTKOKRERKKTVSFSSMPT 156
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                                                                              FNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSRE
                                                                                                             \tt MRIDSSNMNPQDFWKCGCQIVAMNFQTPGLMMDLNIGWFRQNGNCGYVLRPAIMREEVSF
                                                                                                                                            YRVDSSNYNPQPFWNAGCQMVALNYQSEGRNLQLNRAKFSANGGCGYYLKPGCMCQGV--
                                                                                                                                                                             ELVSICKSVQFKEFQVSFQVQKYWEVCSFNEVLASKYANENPGDFVNYNKRFLARVFPSP
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                                                                                                                                                                                                                                                                                                                       SQRMGKEN----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24.7%; Score 1578; DB 4; 36.4%; Pred. No. 4.6e-91;
-- MEQPNNVPV-
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                                                                                                                                                                                                                                               ------KRFQLCKELS
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Q15111;
Q1-NOV-1996
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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PROSITE; PS50003; PH_DOMAIN; 1.
PROSITE; PS50007; PPIDC_X_DOMAIN; 1.
PROSITE; PS50008; PIPIC_X_DOMAIN; 1.
SEQUENCE 997 AA; 112955 MW; 08D30
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PLC-L (PLC-EPSILON).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; D42108; BAA0
HSSP; P10688; 1QAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Yokota J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Kohno T., Otsuka T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                942
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SMART; SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SMART; SM00239; C2;
SMART; SM00233; PH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Interpro; IPR001849; PH.
Interpro; IPR001192; PI_PLC.
Interpro; IPR000909; PI_PLC_Xdom.
Interpro; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRINTS;
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                                                                                                                                                                                                                                                                         41 CMGAMQEGMOMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRKN-EKAKISIDSIQEVSEGR 99
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; PF00388; PF00387;
LDFMEGNQNTPRFMWLKTVFEAADVDGNGIMLEDTSVELIKQLNPTLKEAKIRLKFKEIQ 190
                                                 -DSLARRORT-RDOWLKOTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRORVKOMFREAD
                                                                                                                                                           QSEVFQRYPDGSFD---PNCCFSIYHGSHRESLDLVSTSSEVARTWYTGLRYLMAGISDE 156
                                                                                                                                                                                                                     CISFMQAGCELKKVRPNSRIYNRFFTLDTDLQALRWEPSKKDLEKAKLDISAIKEIRLGK 72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PF00168; C2;
PF00169; PH;
                                                                                                             NTETFTN--NGLADQICEDCAFSILHGENYESLDLVANSADVANIWVSGLRYLVSRSKQP
                                                                                                                                                                                                                                                                                                                                                                Similarity
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                                                                                                                                                                                                                                                                                                                                   Conservative 158; Mismatches
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                                                                                                                                                                                                                                                                                                                                                             23.9%; Score 1524.5; D 36.2%; Pred. No. 9e-88;
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Last sequence update)
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                                                                                      Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                        01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last seq
01-JUN-2002 (TrEMBLrel. 21, Last ann
130kba-Ins(1,4,5)P3 binding protein.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    633 ATHDIE--MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYN
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                                                                     NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                          855 YL 856
                                                                                                                                                                                                                                                                                                                                                          942 EL 943
                                                                                                                                                                                                                                                                                                                                                                                          796 LREAIDMRENMONAIVSIKELCGLPPI-ASLKQCLLTLSSRLITSDNTPSVSLVMKDSFP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENT 512
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                                                                                                                                                                                                                                                                                                                                                                                                                            KPGSLD-----SHAAGRPPARPSVSQRILRRTASAPTKSQKPG-----RRGFP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNPIFDETFEFQVNLPELAMIREVVLDDDYIGDEFIGQYTIPFECLQPGYRHVPLRSFVG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DIMEHVTLFVHIAITNRSGGGKAQKRSLSVRMGKKVREYTMLRNIGLKTIDDIFKIAVHP
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Last annotation updat
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SEQUENCE FROM N.A.
STRAIN-WISTAR; TISSUE-BRAIN;

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PubMed=8546702;

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R PCODOM: PD001202; PI_PLC_Y; 1.

R SMART; SM00239; C2; 1.

R SMART; SM00148; PLCXC; 1.

R SMART; SM00149; PLCYC; 1.

R SMART; SM00149; PLCYC; 1.

R PROSITE; PS50004; C2_DOMAIN_2; 1.

R PROSITE; PS50003; PH_DOMAIN; 1.

R PROSITE; PS50008; PIPLC_X_DOMAIN; 1.

R PROSITE; PS50008; PIPLC_X_DOMAIN; 1.

SEQUENCE 1096 AA; 122772 MW; 06F13B580660A01F CRC64;
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Best Local :
632 VATHDIE--MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNY 689
                                                                                                                                                                                  572 VVGSFSRRKKKGSKLKKAASVEEGDEGODSPGGQSRGATRQKKTMKLSRALSDLVKYTKS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          470
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 157 -DSLARRORT-RDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             172 NTETFRN--NGLADQICEDCAFSILHGENYESLDLVANSADVANIWVSGLRYLVSRSKQP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro;
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Ikehara Y., Hirata M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               [nterPro;
                                                                                                                                                                                                                                                                                                                                                                          TAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRL 571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KDVISTINKYAFIKNEYPVILSIENHCSVIQOKKMAQYLTDILGDKLDLSS-VSSEDATT 451 : | | | | : | | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | : | | : : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INASHNTYLIEDQFRGPADINGYVRALKMGCRSIELDVSDGPDNEPILCNRNNMAMLLSF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KSKEKLTTRVTEEEFCEAFCELCTRPEVYFLLVQISKNKEYLDANDLMLFLEVEQGVTHV 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TDDHQGT--LGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGV 272
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PF00169; PH;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IPR001192; PI_PLC.
IPR000909; PI_PLC_xdom.
IPR001711; PI_PLC_x.
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                                                                                                ----EEAEMSRR----
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submitted (APR-2002) to the EMBL/GenBank/DDBJ databases
EMBL; AF498759; AAM18122.1; -.
SEQUENCE 772 AA; 88075 MW; 86E5706A74247548 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sus scrofa (Pig).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
         333 ITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILF
                                                                                                                                     213 ADTDDHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGV 272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-JUN-2002 (TrEMBLrel. 21, Created)
01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Phospholipase C delta 4.
                                                                   273 TLESCODIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYF 332
                                                                                                               189 ADT-SQSGTLEGEEFVEFYKSLTKRAEVQELFENFSSDGQKLTLLEFVDFLQEEQKEGER 247
                                                                                                                                                                                  133 VTNMD----QQERLDQWLSDWFQRGDKNQDGRMSFGEVQRLLHLMNVEMDQEHAFQLFQT 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q8SPR7;
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                                                                                                                                                                                                                                                      74 ETVRGGHESELLRNLAE-EFPLEQGFTIVFHGRRSNLDLVANSVEEAQVWMQGLQLLVDF 132
                                                                                                                                                                                                                                                                                                     93
                                                                                                                                                                                                                                                                                                                         16 LPINQDLL-LMQKGMLMRKVRSKSWKKLRYYRLQDDGMTV-WHARQAGGRAKPSFSISDV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                894 PLREAIDMRENMQNAIVSVKELCGLPPI-ASLKQCLLTLSSRLITSDSTPSVSLVMKDCF
                                                                                                                                                                                                                                                                                                                                                          35 LPVVERCMGAMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRKNEKAK--ISIDSI 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      774 SDNPIFDETFEFQVNLPELTMVRFVILDDDYIGDEFIGQYTIPFECLQPGYRHVPLRSFV 833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         808 GFNPTWEETLVEMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEG-- 865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          716 VPGVSPLLLHIKIISGQNFPKPKGACA--KGDVIDPYVCVEIHGIPADCSEQRTKTVQQN 773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           748 LPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             656 NPQDFWNCGCQIVAMNFQTPGPMMDLHTGWFLQNGGCGYVLRPSIMRDEVSYFSANTKGI 715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            596
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                                           ASDLALELIDRHEPSDSGKLRHVLSLDGFLSYLCSKDGDIFNPTCLPIYQDMTQPLNHYF
                                                                                                                                                                                                                                                                                        QEVSEGROSEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAG
                                                                                                                                                                                                                 ISDEDSLARRORTROWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRORVKOMFRE
   ---MEEASIFVHVAVSDISG------G 897
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GDIMEHVTLFVHIAITNRSGGGKAQKRSLSVRNGKKVREYTMLRNIGLKTIDDIFKIAVH 893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGV--FNPNSEDP 747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VOYRDFELSMKTQNYWEICSFSETLASRIANEYPEDFVNYNKKFLSRVYPSAMRIDSSNL
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                                                                                                                                                                                                                                                                                                                                                                                                      140;
                                                                                                                                                                                                                                                                                                                                                                                                                   Score 1463; DB 6; Length 772; Pred. No. 4.8e-84;
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<del>..</del>
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                                                                                                                                                                                                                                                                                                                                                                                              264; Indels 128;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                Q9BRC7
                                                                                                                                                                                                                                                                                                                                                          01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Hypothetical 87.6 kDa protein.
Homo sapiens (Human)
                                                                                                                                                                                                                EMBL;
                                                                                                                                                                                                                              Strausberg R.; submitted (APR-2001) to the EMBL/GenBank/DDBJ databases EMBL; BC006355; AAH06355.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                    Q9BRC7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       513
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                                                     Pfam; PF00168; C2; 1.
Pfam; PF00036; efhand; 2.
Pfam; PF00169; PH; 1.
Pfam; PF00388; PI-PLC-X; 1.
Pfam; PF00387; PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            573 VGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSV 632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          469
             PRINTS; PR00390; PHPHLIPASEC. ProDom; PD001202; PI_PLC_Y; 1 SMART; SM00239; C2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             691
                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            749
                                                                                                                             InterPro;
                                                                                                                                           InterPro;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KDVVAAIAQYAFQTSDYPVILSLENHCSWEQQEMIAHHLTEILGEQLLSTTLDGQLPTQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTL 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATHDI--EMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYN 690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLV 572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PSPEELRRKILVKGKKL-RTLEEDLEEEEEEEEEEE-----LEG------EQE 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INSSHNTYLVGDQLCGQSSVEGYIRALKRGCRCVEVDIWDGPNGEPVVYHGHTLTSRIPF 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SFYSFAHSREHYRFYEISSFSEAKAKSLIKESGNEFVQHNTWQLSRVYPGGLRTDSSNYN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AELELEAQFE-----SEPQE-----LSPRSK-----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSEDPL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FNPYWGQTLCFRVLVPELALLRFVVKDYDWKSRNDFVGQYTLPWNCMQQGYRHIHLLSKD 748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FNPTWEETLVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL---E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SPSKAQTLLIQVISGQQLPKVDDS---KEGSIVDPLVRVEIFGVRPDTARQETSYVENNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PQEFWNAGCQMVAMNMQTAGLEMDLCDGLFRQNAGCGYVLKPDFLRDAQSSFHP--ERPI 631
                                                                                                                                                                                                                   P10688; 1QAS
SM00054; EFh;
                                                                                                                         IPR000909; PI_PLC_Xdom IPR001711; PI_PLC_Y.
                                                                                                                                                                                     IPR002048; EF-hand.
                                                                                                                                                         IPR001192;
                                                                                                                                                                        IPR001849;
                                                                                                                                                                                                    IPR000008; C2.
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                                                                                                                                                         PI_PLC.
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PROSITE; PS500018; EF HAND; UNKNOWN_2.
PROSITE; PS50003; PH_DOMAIN; 1.
PROSITE; PS50007; PIPIC_X_DOMAIN; 1.
PROSITE; PS50008; PIPIC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hypothetical SEQUENCE 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SMART; SM00233; PH; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      132
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  191
                                                                                                                                                                                                                                                                                                                                                                                   462
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    463 LYKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIK 522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       371 AFOTSDYPVILSLETHCSWEQQQTMARHLTEILGEQLLSTTLDGVLPTQLPSPEELRRKI 430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        403 AFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKI 462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           311 GDQLCGQSSVEGYIRALKRGCRCVEVDVWDGPSGEPVVYHGHTLTSRILFKDVVATVAQY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             343 GDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKY 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              251 RYEPSDSGKLRHVLSMDGFLSYLCSKDGDIFNPACLPIYQDMTQPLNHYFICSSHNTYLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 283
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                                                                                                                                                                                                                                                                                                               485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          18 MQEGMPMRKVRSKSWKKLRYFRLQNDGMTV-WHARQARGSAKPSFSISDVETIRNGHDSE 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         45 MQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRW--RPSRKNEKAKISIDSIQEVSEGRQSE 102
                                                                                                                                                                                                                                            512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      77 LLRSLAEELPLEQGFTIVFHG-RRSNLDLMANSVEEAQIWMRGLQLLVDLVTSMD----H 131
                                                                                                                                                                          572
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 871 IFVHVAVSDISGKVKQALGLKG 892
                                                                                                                                       757
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLV 342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EGEEFVQFYKALTKRAEVQELFESFSADGQKLTLLEFLDFLQEEQKERDCTSELALELID 250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GFEEFCAFYKWMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIE 282
                                                                                                                                                                                                                                                              WEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAG
                                                                                                                                                                                                                                                                                                                                               GSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA----THDIE 638
                                                                                                                                                                                                                                                                                                                                                                                                                                                   LVKGKKL--TLEEDL---EYEEEEAEPELEE------SELAL 461
                                                                                                                                                                                                                                              KEHYHFYEISSFSETKAKRLIKEAGNEFVQHNTWQLSRVYPSGLRTDSSNYNPQELWNAG
                                                                                                                                                                                                                                                                                                               ESOFETEPEPQ----
                                                                                                                                                                                                                                                                                                                                                                                                                ESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKK 582
                                                                                                                        VLRIISGQQLPKDRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEET
                                                                                                                                                                        COMVALNYOSEGRMLOLNRAKFSANGGCGYYLKPGCM--COGYFNPNSEDPLPGQLKKQL
                                LCFRVLVPELAMLREVVMDYDWKSRNDFIGQYTLPWTCMQQGYRHIHLLSKDGISLRPAS
                                                                                                    LIQVISGQQLPKVDKT---KEGSIVDPLVKVQIFGVRLDTARQETNYVENNGFNPYWGQT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SM00148; PLCXC; 1.
SM00149; PLCYC; 1.
                                                                   LVFMVHMPETALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL---EG--MEEAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          h 22.6%; Score 1441; DB 4; Similarity 38.3%; Pred. No. 1.2e-82; 30; Conservative 145; Mismatches 253;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 al protein.
762 AA; 87585 MW; 5444BE5CE2AEA3EF CRC64;
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PRINTS; PRO0390; PHPHLIPASEC.
PRODOM; PD001202; PI_PLC_Y; 1.

SMART; SM00239; C2; 1.

SMART; SM00233; PH; 1.

SMART; SM00149; PLCYC; 1.

SMART; SM00149; PLCYC; 1.

SMART; SM00149; PLCYC; 1.

PROSITE; PS50004; C2_DOMAIN_2; 1.

PROSITE; PS500018; EF_HAND; UNKNOWN_1.

PROSITE; PS50003; PH_DOMAIN; 1.

PROSITE; PS50008; PIPLC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches 312;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q62711 PRELIMINARY;
Q62711;
01-NOV-1996 (TremBLrel 01
01-NOV-1996 (TremBLrel 01
01-JUN-2002 (TremBLrel 21
Phospholipase C delta-4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro;
Pfam; PFOO
Pfam; PFOO
Pfam; PFOO
Pfam; PFOO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pfam; PF00169; PH; 1.
Pfam; PF00388; PI-PLC-X; 1.
Pfam; PF00387; PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                    104 FORYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARR- 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR002048;
InterPro; IPR001849;
InterPro; IPR001192;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN-SPRAGUE DAWLEY; TISSUE-BRAIN; MEDLINE-96132878; PubMed-8550568;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rat
                                           282
                                                                                       190
                                                                                                                                                                          131
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                                                                                                                                                                                                                                                                                                                                                                            45 MQEGMOMVKLRGGSKGLVRFYYL-DEHRSCIRWRPSRKNEKAKISIDSIQEVSEGRQSEV 103
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                                                                                                                                                          YQEQLDQMLREWFQQADRNQDSRMSFREAQRLLLLMNVEMDEEYAFSLFQEADV-SQSNT
                         EQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYL
                                                                     LDSEEFVQFYKALTKRTEIEELFENFSSDKQKLTLLEFVDFLREEQKESDHSSDLALKLI
                                                                                                              LGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDII
                                                                                                                                                                                                    -QRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGT 221
                                                                                                                                                                                                                                                L-RYLVEEFPLEQGFTIVFNGRRENLDLVANSVEEAQTWNRGLQLLV-----DLVARMN 130
                                                                                                                                                                                                                                                                                                                                   MQKGTMMRKVRTKSWKKLRYFRLQDDGMTVWHGRHLESISKPTFSISDVERIRKGQDSEL 77
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PF00168; C2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
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IPR002048; EF-hand.
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                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative 137;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 20.6%; Score 1315.5; D 36.6%; Pred. No. 1e-74;
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PI_PLC_Xdom.
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Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches 281; Indels 123; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   expression, and purification
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                                                  STRAIN-BRISTOL N2;
Wohldmann P., Beck C.;
"The sequence of C. elegans cosmid K10F12.";
Submitted (SEP-1997) to the EMBL/GenBank/DDBJ
STRAIN-BRISTOL N2;
                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             O17232;
O1-JAN-1998 (TrEMBLrel. 05, Created)
O1-JAN-1998 (TrEMBLrel. 05, Last sequence update)
O1-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Hypothetical 101.3 kDa protein.
K10F12.3.
                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                               "Genome sequence of the nematode C. elegans: a platform for investigating biology. The C. elegans Sequencing Consortium Science 282:2012-2018(1998).
                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. STRAIN-BRISTOL N2;
                                                                                                                                                                                                                                                                                                                                                                                                                               Caenorhabditis elegans.
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                                                                                                                                                                                                                                                                              MEDLINE=99069613; PubMed=9851916;
                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.
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||| ::||:||:||:||:||
| AFQSSDYPLILSLDNHCTWEQQKTMAHHLIAILGEQLLSTTLEEQLIDIMPSPEQLRGK 429
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Submitted (AUG-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AF025462; ABB71005.1; -.
HSSP; P10688; LDJH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRINTS; PR00360; C2DOWAIN.
PRINTS; PR00390; PHPHLIPASEC.
ProDom; PD001202; PI_FLC_Y; 1
SMART; SM00239; C2; 1.
SMART; SM00233; PH; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR001192; PI_PLC.Xdom.InterPro; IPR000909; PI_PLC_Xdom.InterPro; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50007; PIPIC_X_DOMAIN; 1.
PROSITE; PS50008; PIPIC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pfam;
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                                                                                                                                                                                               456
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VSDCWNYMQTGSDFVKLRGTNRQFRRFFSLDADLSYIRWTPTNKKPHKARIAIDEIREIR 105
                               GATROKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYL 667
                                                                                             KAEEDVES---GEDAGASRRNGRLYVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSR 607
                                                                                                                                                                                                                                                                                                                                                                                                              LQVEQKMAGVTLESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQ 322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADTDDHQGTLGFEE-----FCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRF 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SD-EDSLARRORTRDOWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFRE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EGRQSEVFQRYPDGSF---DPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGI 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PF00388; PI-PLC-X; 1. PF00387; PI-PLC-Y; 1.
                                                                                                                                                              KLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCED-----PNNFSVSTLSPSGKLGRKS
                                                                                                                                                                                                                            LDL---SSVSSEDATTLPSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDC
                                                                                                                                                                                                                                                               MVQNGQTATSKITISSALRIIREFAFERSRYPLLLKVSVHCSTDWQKVAAMLIVTHLGTR
                                                                                                                                                                                                                                                                                            IVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDK 438
                                                                                                                                                                                                                                                                                                                                                          DMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWD----GPDGEP 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                           V-----TIGAEESERGKIEKSHFVDLYKEIGTRPEVYFLMVRYAN-KDYLSCODLRLF
                                                                 ----DLLSTAPGSTTMSSRKN----
                                                                                                                                                                                               LYLPKNDPTNWDDEKNCPTPWDFQNRILIVGKKLD---NPDTDSGEVSEED--DSL----
                                                                                                                                                                                                                                                                                                                             DMKQPFSRYFISSSRKSYLVEDQL-GPSSSDGFSSALKRNCRFLEFDIWDPNEADGDTEP
                                                                                                                                                                                                                                                                                                                                                                                             PF00168;
                                                                                                                                   -----ASTTRR------KSKRIQLCKELSDLVPVFFNVKTLN------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SM00148; PLCXC; 1.
SM00149; PLCYC; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            895 AA; 101303 MW; 424D2443D400655D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative 138; Mismatches 266; Indels 172;
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   -LASVTESTCLRLMHTYATEFG
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                                     Query Match
Best Local
                          Matches
                                                                                                                                                  SMART; SM00239; C2; 1.
SMART; SM00054; EFh; 2.
SMART; SM00233; PH; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q63693
                                                                                                                                                                                                                                                                                                                                                                                                                     Liu N., Fukami K., Yu H., Takenawa T.;
"A new phospholipase C delta 4 is induced
and appears in the nucleus.";
J. Biol. Chem. 271:355-360(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-NOV-1996 (TrEMBLrel. 01-JUN-2002 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q63693;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                             EMBL; D50455; BAA09046.1; HSSP; P10688; 1QAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=96132927; PubMed=8550586;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN-DONRYU;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Phodpholipase C delta4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         636
                                                                          PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS500018; EF HAND; UNKNOWN_1.
PROSITE; PS50003; PH_DOMAIN; 1.
PROSITE; PS50007; PIPIC_X_DOMAIN; 1.
PROSITE; PS50008; PIPIC_X_DOMAIN; 1.
SEQUENCE 771 AA; 88862 MW; FBFBD6
                                                                                                                                                                                                                                                      Pfam; PF00036; efhand; 2. Pfam; PF00169; PH; 1. Pfam; PF00388; PI-PLC-X; 1. Pfam; PF00387; PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                                     InterPro; IPR000909;
InterPro; IPR001711;
Pfam; PF00168; C2; 1
                                                                                                                                                                                                                  ProDom;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         576 QATRNYCVRVFPNPSRVDSSNLNPQEFWNNGVQMVCLNYQTPGLMMDLQEGKFSDNGGCG
                                                                                                                                                                                                                              PRINTS;
                                                                                                                                                                                                                                            PRINTS;
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                                                                                                                                                                                                                                                                                                                                                         InterPro;
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                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR000008; C2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TLAFSSMMPGYRHVYL---EG--MEEASIFVHVAVSDI--SGKVKQ 886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BIIGLPVDCSREQTRVVDDNGENPTWEETLVFMVHMPEIALVRFLVWDHDPIGRDFIGQR 847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        YVLKPQVMKDDMFVPSDRVPTSPQI----LHLRILSGQQLPRPRGS--NAKGDSADPFVVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RFNQQQLSRIYPSSYKVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EVFGLPGDCAEERTRTVRNDSINPSFDESFQFQVSVPELALVRFLVLDDDYIGDDFIGQY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              YVLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEV 787
MQEGMQMVKLRGGSKGLVRFYYL-DEHRSCIRWRPSRKNEKAKISIDSIQEVSEGRQSEV 103
                                                                                                                                                                                                                PR00360; C2DOMAIN.
PR00390; PHPHLIPASEC
PD001202; PI_PLC_Y;
                                      Similarity
                                                                                                                                                                                                                                                                                                                                                          IPR001849;
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                            Conservative
                                                                                                                                                                                                                  PI_PLC_Y; 1.
                                                                                                                                                                                                                                                                                                                  PI_PLC.xdom.
PI_PLC_Y.
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                                                                                                                                                                                                                                                                                                                                                                      EF-hand.
                                     20.3%; Score 1294; 36.8%; Pred. No. 2.
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01,
21,
                            134;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Craniata; Ver
Sciurognathi;
                                                                             FBFBD64A8B86E4FF CRC64;
                             Mismatches
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thi; Muridae; Murinae; Rat
                                         ); DB 11;
2.3e-73;
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                             280;
                                                     Length
                             Indels 126;
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MQKGTMMRKVRTKSWKKLRYFRLQDDGMTVWHGRHLESISKPTFSISDVERIRKGQDSEL

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nawabata A., Hikiji T., Kobatake N., Inagaki H., Ikema Y., Okamoto S.,	FROM N.A.	Pukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primátes; Catarrhini; Hominidae; Homo. NCBT TaxTh=96,66.	(TrEMBLrel 21, Last annotatic 0 fis, clone HEP00931. (Human).	Q8TEC1; 01-JUN-2002 (TrEMBLrel. 21, Created) 01-JUN-2002 (TrEMBLrel. 21, Last sequence update)	1 28TEC1 PRELIMINARY; PRT; 789 AA.	13			812 TWRETTLVEMVHMPETALVRELVWDHDPIGR-DFIGORTLAFSSMMPGYRHVYLEG 865		754 KQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNP 811	578 NVGCQMVAMNMQTAGSAMDICDGLFRQNGGGSYVLKPGCMCQGVENPNSEDPLPGQLK 753	520SKENYHIYDISSFSESKAKNLIREAGNEFVQHNARQLCRVYPSGLRTDSSNYNPQEHW 577	0	380 KKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVATH 635	89	LIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRR		KILVKGKKL-PANTSEDAREGEVSDEDGADETDDOGGTT NOD GENERALITE EQIDIMPSPE-LRG 42	402 YAFIKNEYPVILSIENHCSVIQOKKM-AQYLTDILGDKLDLSSVSSEDATTLPSPQMLKG 460	310 LGDQFCGQSSVEGYIRALKRGCRCVEVDTWDGPDGEPVVYHGRTLTSRILFKDVLATLAQ 369		250 DRYEPSENGRLLRVLSKDGFLSYLCSADGNIFNPDCLPIYQDMTQPLSHYYINSSHNTYL 309	EQFEPCPENKSKGLLGIDGFTNYTTSPAGDIFNDEHHAVHODMTODI GUVETTEGGINTTT		LGFEEFCAFYKNMSTRADI VI I MITTANAUTURA TORTOTTOTTOTTOTTOTTOTTOTTOTTOTTOTTOTTOTT	163 -ORTROWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGT 221		104 FQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARR- 162
				<del></del>								```						-:-					<u> </u>						
5	Q B	Qy	B 5	₽	Qy	Db Q	) b	y Q	Db	Qy	Db	Оу	Qy	문	<b>B</b>	Qy	Db .5	Ov Ov	Оy	рь	Qy	Db .	0 <b>v</b> Db	VQV		m c	DR SQ	P 점	RA RA
	724 LRAPELALVREVVEDYDATSPNDEVGGFTLPLSSLKQGYRHIHLLSKDGASLSPATLFIQ 783		/00 LFKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEETLVFM 820	16 TPGYE	708 SEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNSE-DP-LPGQLKKQLVLRIISGQO 765	648 SSFSETKÄHÖLLÖÖKPÄÖYLEPNÖQÖLSRIYPSSYRVDSSNYNPÖPFWNAGCOMVALNYO 707		90 ASVEEGDEGQDSPGGQSRGATRQK	08AAAORRIAK	530 EDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKIKKA 589	PAARSEDGRALSDREEEEEDDEE	425 PVILSLENHCGLEQQAAMARHLCTILGDMLVTQALDSPNPEELPSPEQLKGRVLVXGKKL 484	410 PVILSIENHCSVIQOKKWAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKKL 469	365 SSTEAYVRAFAQGCRCVELLCWEGFGGEPVIYHGYTTSKILFRDVETINKYAFIKNEY 409		290 NKSKGLLGIDGETNYTRSPAGDIENPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQ 349	246 FLRRLLKRPELEEIFHQYSGEDRVLSAPELLEFLE-DOGEEGATLARAOOLLOTYFINET 30A	187 IHSYLHRADSNQDSKMSFKEIKSLLRMVNVDMNDMYAYLLFST 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	170 LKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCA 229	:     :    :     ::     ::		TREAST   T			Matches 309; Conservative 136; Mismatches 290; Indels 168; Gaps	Query Match 20.2%; Score 1289; DB 4; Length 789; Best Local Similarity 34.2%; Pred No 4 05-73.	EMBL; AK074240; BAB65029.1;, SEQUENCE 789 AA; 89258 MW; C6901404D2C9D070 CRC64;	"NEDO human cDNA sequencing project "." Submitted (FEB-2002) to the FMRI/GenBank/nont database	Okitani R., Ota T., Suzuki Y., Obayashi M., Nishi T., Shibahara T.,

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RESULT 14
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Best Local
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PRODOM; PD001207; PI_PLC_Y; 1.
SMART; SM00239; C2; 1.
SMART; SM00233; PH; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
SMART; SM00149; PLCYC; 1.
PROSITE; PS50004; C2_DOMAIN; 1.
PROSITE; PS50003; PH_DOMAIN; 1.
PROSITE; PS50003; PH_DOMAIN; 1.
PROSITE; PS50007; PIFLC_X_DOMAIN; 1.
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"Organization of the Hamster Phospholipase C-deltal Gene:Differential Loss of Separate Alleles of the Phospholipase C-deltal Gene in Two Fibroblast Mutants Lacking Phospholipase C-deltal.";
Submitted (MAR-1996) to the EMBL/GenBank/DDBJ databases.
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EMBL; U50564; AAA93481.1; JOINED.
EMBL; U50565; AAA93481.1; JOINED
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Eukaryota; Metazoa; Chordata; Crania
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE;
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                                                                                                                                                     ARRORTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREAD----TD 216
                                                                                                                                                                                                                                       QSEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSL 159
                                                                                                                                                                                                                                                                                                                                                 AMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRK----NEKAKISIDSIQEVSEGR 99
                                                 DHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLES
                                                                                                       DQRQKLQ-HWIHSCLRKADKNKDNKMNFKELKDFLKELNIQVDDSYARKIFRECDHSQTD
                                                                                                                                                                                                                                                                                                                 ALLKGSQLLKVKSSSWRRERFYKLQEDCKTI-WQESRKVMRSPESQLFSIEDIQEVRMGH 68
                                                                                                                                                                                                            RTEGLEKFA-RDIPEDRCFSIVFKDQRNTLDLIAPSSADAQHWVQGLRKI----IHHSGSM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PF00169; PH; 1.
PF00388; PI-PLC-X; 1.
PF00387; PI-PLC-Y; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                           307;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
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; IPR002048; EF-hand.
; IPR001849; PH.
; IPR001192; PI_PIC.
; IPR000909; PI_PIC_Xdom.
; IPR0001711; PI_PIC_X.
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{\tt SLEDEEIETFYKMLTQRAEIDRVFAE} AAGSAETLS {\tt VEKLVTFLQHQQREE} AAGPAL
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                                                                                                                                                                                                                                                                                                                                                                                                                           128;
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Query Match
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01-JUN-2002
01-JUN-2002
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                                                       EMBL; AF
                                                                                                                                                                                                                                   KIAALY04.
Homo sapiens (Human).
Metazoa; Chordata;
                                          SEQUENCE
                                                                                   proteins."
DNA Res. 8
                                                                                                            MEDLINE=21842142; PubMed=11853319;
Nagase T., Kikuno R., Ohara O.;
"Prediction of the coding sequences of unidentified human genes. ]
The complete sequences of 50 new cDNA clones which code for large
                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                KIAA1964 protein
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                                                                      AB075844; BAB85550.1;
 Similarity
                                                                                     8:319-327(2001)
                                          757
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(TrEMBLrel. 21, Last sequence up
(TrEMBLrel. 21, Last annotation
                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
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                                          85776 MW;
 20.1%;
34.1%;
Score 1281; DB 4;
Pred. No. 1.5e-72;
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Searc Job t	Qу Db	Оy	Ωу	Qу Db	Оy	Qу	DP QV	D Oy	рb	Qу	Qy Db	ДУ	Qу	Qy Db	Qy Db	Mat
h com	830 701	770 649	717 593	657 533	599 491	539 476	462	419	359 342	299 282	239 223	179 164	119 108	62 50	10	Matches
Search completed: March 28, 2003, 13:51:32 Job time : 122 secs	RELVWDHDPIG-RDEIGQRTLAFSSMMPGYRHVYLEGMEEASIEVHVAV 877   :   :   : :  :  :  :  :  :  :  :  :  :	RDSMLGDRGEIIDFFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEETLVFMVHMPEIALV 829	RAKFSANGGCGYVLKPGCMCQGVFNPNSE-DP-LPGQLKKQLVLRIISGQQLPKP 769	QILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLN 716 :::: ::    :  :     :: :     :   :     :	ODSPGGOSRGATROKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAH 656	TLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEG 598	EGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVS 538 :  :: ::	VIQOKKMAQYLTDIIGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKKLPANISEDAE 	LQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENH 418       :  :  :  :  :  :  :  :  :  : :::::	DGFTNYTRSPAGDIFNPEHHWHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWV 358 	DLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSKGLLGI 298 :	KNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMSTRR 238	SIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEAD 178 	VRFYYLDEHRSCIRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRYPDGSFDPNCCF 118	PGPALPPEDPGPDPESRWLFLSANILPVVERCMGAMQEGMQMVKLRGGSKGL 61         :   :   :   :   :   :   :   :	305; Conservative 135; Mismatches 288; Indels 166; Gaps 21;
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Run on:

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OM protein - protein search, using sw model
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Perfect score:
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Maximum DB seq length: 2000000000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.
                                                                                                                       1258
1235.5
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1 MAPPTAGPLPGPAL
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Match
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   SwissProt_40:*
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Listing first 45 summaries
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   Y450_HUMAN
PID1_HUMAN
PID1_HUMAN
PID1_BOVIN
PIG1_BOVIN
PIG4_HUMAN
PIG1_HUMAN
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PIB1_HUMAN
PIB1_HUMAN
PIG1_YEAST
PIG1_MOUSE
PIG1_MOUSE
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                                                                  p10894 bos taurus
Q02158 dictyosteli
p13217 drosophila
Q00722 homo sapien
Q01970 homo sapien
Q01970 homo sapien
p40977 schizosacch
p51432 mus musculu
p32383 saccharomyc
Q13433 candida alb
Q62077 mus musculu
p33479 pseudorabie
Q07092 homo sapien
p03181 epstein bar
p17599 bos taurus
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P08487
Q15147
P19174
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P25455
P10687
P10687
Q07722
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P10686 rattus norv
P24135 rattus norv
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Ouery Months Matches  Watches  Watches  V 883  V 943  D 161  D 161  D 162  D 1003  D 221  Y 1063  D 281  Y 1123	TIII Sel Sel TO Na	JULT 1 0_HUMAN 74501 07501 16-00 16-00 16-00 16-00 16-00 16-00 16-00 16-00	00000000000000000000000000000000000000
Δ ()	SEQUENCE FROM N. F TISSUE-Brain; MEDLINE-9811662; Seki N., Ohira M. Nakajima D., Nom "Characterization from human brain. DNA Res. 4:345-33 	LT 1  _HUMAN Y450_HUMAN Y450_HUMAN O75038; 16-OCT-2001 (R 16-OCT-2001 (R HYDOTHOTICAL (R HYDOT	184.5 181.5 181.5 170.5 177.5 177.5 176.5 176.5 176.5 176.5
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.2%: Score 1738; .7%: Pred. No. 7 e 1; Mismatch e 1; Mismatch gSLDSHAAGRPPARPSV	ishika; Ishika	PRT; ted) sequence annotatio 450.	CA54_HUMAN Y222_HUMAN CA11_HUMAN CA13_MOUSE SYNI_RAT DUS8_HUMAN APC_MOUSE CA17_HUMAN CA11_CHICK CA13_HUMAN CA11_CHICK CA13_HUMAN CA12_MOUSE ALIGNMEN
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Lomasney J.W., King K.;
"Cloning and identification of amino acid residues of human
phospholipase C delta 1 essential for catalysis.";
J. Biol. Chem. 270:5495-5505(1995).
-i- FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) IS
MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/annouhce/
                                                                                                                                                                                                                                                                                                                                                                                   EMBL; U09117; AAA73567.1;
HSSP; P10688; 1MAI.
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Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase delta 1
(EC 3.1.4.11) (PLC-delta-1) (Phospholipase C-delta-1) (PLC-III).
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SIMILARITY: CONTAINS 1 C2 DOMAIN.
SIMILARITY: CONTAINS 1 PH DOMAIN.
SIMILARITY: CONTAINS 2 EF-HAND CALCIUM-BINDING DOMAINS.
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CATALYTIC ACTIVITY: 1-phosphatidy1-ID-myo-inositol 4,5-
bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate
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            S; PR00360; C2DOMAIN.
S; PR00390; PHPHILIPASEC.
mm; PD001202; PI_PLC_Y; 1.
'; SM00239; C2; 1.
'; SM00233; PH; 1.
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; IPR001849; PH.
; IPR001192; PI_PLC.
; IPR001999; PI_PLC_Xdom.
; IPR001711; PI_PLC_Y.
; IPR001711; PI_PLC_Y.
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PROSITE: PS50003; PH_DOMAIN; 1.
PROSITE: PS50004; C2_DOMAIN_2; 1.
PROSITE: PS50007; PIPIC_X_DOMAIN; 1.
PROSITE: PS50008; PIPIC_X_DOMAIN; 1.
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EF-HAND 2 (POTENTIAL).
DOMAIN X.
DOMAIN Y.
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BY SIMILARITY.
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NKNSIVDPKVTVEIHGVSRDVASRQ
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01-JUL-1989 (Rel. 11, Created)
01-JUL-1989 (Rel. 11, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
(EC 3.1.4.11) (PLC-delta-1) (Phospholipase C-delta-1) (PLC
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Grobler J.A., Essen L.-O., Williams R.L., Hurley J.H.;
"C2 domain conformational changes in phospholipase C-delta 1.";
Nat. Struct. Biol. 3:788-795(1996).
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Suh P.-G., Ryu S.H., Moon K.H., Suh H.W., Rhee
"Cloning and sequence of multiple forms of phos
Cell 54:161-169(1988).
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                                                               ESSEN L.-O., Perisic O., Lynch D.E., Katan M., Williams R.L.;
"A ternary metal binding site in the C2 domain of phosphoinositide-
specific phospholipase C-deltal.";
Biochemistry 36:2753-2762(1997).
Biochemistry 36:2753-2762(1997).
DIACYLCYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) IS
MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=96107342; PubMed=8521504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Iwanaga S., Hirata M.;
"Putative inositol 1,4,5-trisphosphate binding proteins in rat brain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=92202192; PubMed=1313009;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE OF 50-57; 128-140 AND 728-738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rattus norvegicus (Rat).
                                                                                                                                                                                                                                            Essen L.-O., Perisic O., Cheung R., Katan M., Williams R.L., "Crystal structure of a mammalian phosphoinositide-specific phospholipase C delta.";
                                                                                                                                                                                                                                                                                                 x-ray CRYSTALLOGRAPHY (2.4 ANGSTROMS) OF 133-756.
MEDLINE-96186808; PubMed-8602259;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mammalia; Eutheria;
                                   <del>-</del>
                                                                                                                                                                                    MEDLINE=97215812; PubMed=9062102;
                                                                                                                                                                                                  X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS) OF 133-756
                                                                                                                                                                                                                                   Nature 380:595-602(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     K-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS) OF 12-130.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               732
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                                                                                                                                                                                                                                                                                                                                                                                                                    (-RAY CRYSTALLOGRAPHY (2.4 ANGSTROMS) OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Biol. Chem.
                          C ENZYMES.

CATALYTIC ACTIVITY: 1-phosphatidy1-1D-myo-inosito1 4,5-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HVHLMSKNGDQHPSATLFVKISLQD 756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TAVITNNGFNPWWDTEFAFEVVVPDLALIRFLVEDYDASSKNDFIGQSTIPLNSLKQGYR 731
               bisphosphate + H(2)0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -EGMEEASIFVHVAVSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        267:6518-6525(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chordata;
Rodentia;
                 D-myo-inositol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                879
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                                                                                                                                                                                                                                                                                                                                                                                                                      205-756
               1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         phospholipase
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rase delta
(PLC-III).
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Best Local
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DOMAIN
                                                                                                                                                                           CA_BIND
                                                                                                                                                                                                                                                           PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PDB;
PDB;
PDB;
PDB;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PIR;
PDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics institute. There are no restrictions on its
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                                                                                                                        ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; M20637; AAA41886.1; -.
                                                                                                                                                                                                                                                                                                                                  PRINTS; PR00360; C2DOMAIN.
PRINTS; PR00390; PHPHLIPASEC
                                                                                                                                                                                                                                                                                                                                                                                      Ptam;
                                                                                                               SEQUENCE
                                                                                                                                                                                                                               PROSITE;
                                                                                                                                                                                                                                       PROSITE;
                                                                                                                                                                                                                                                                                 SMART; SM00149;
                                                                                                                                                                                                                                                                                                               SMART; SM00239; C2;
                                                                                                                                                                                                                                                                                                                          ProDom; PD001202; PI
                                                                                                                                                                                                                                                                                                                                                                             Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                 InterPro; IPR001192; PI_PLC.xd
InterPro; IPR001909; PI_PLC_Xd
InterPro; IPR001711; PI_PLC_Xd
Pfam; PF00036; efhand; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                         [nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 [nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              [nterPro;
                                                                                                                                                                                                NIAMOC
                                                                                                                                                                                                          3D-structure.
                                                                                                                                                                                                                    Hydrolase;
21 ALLKGSQLLKVKSSSWRRERFYKLQEDCKTI-WQESRKVMRSPESQLFSIEDIQEVRMGH 79
                                                 44 AMQEGMOMYKLRGGSKGLYRFYYLDEHRSCIRWRPSRK----NEKAKISIDSIQEVSEGR 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COFACTOR: Calcium.

SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.

SIMILARITY: CONTAINS 1 C2 DOMAIN.

SIMILARITY: CONTAINS 1 PH DOMAIN.

SIMILARITY: CONTAINS 2 EF-HAND CALCIUM-BINDING DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1DJH;
1DJI;
1DJW;
1DJX;
1DJY;
                                                                                                                                                                                                                                                                                                                                                       PF00387; PI-PLC-Y; 1. PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                            PF00036; efhand;
PF00168; C2; 1.
PF00169; PH; 1.
                                                                                                                                                                                                                                                                                SM00148; PLCXc; 1.
SM00149; PLCYc; 1.
                                                                                Similarity
                                                                                                                                                                                                                               PS50008;
                                                                                                                                                                                                                                       PS50004;
                                                                                                                                                                                                                                                                     PS00018; EF_HAND; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        07-JUL-97.
23-JUL-97.
07-JUL-97.
07-JUL-97.
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07-JUL-97
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                                                                                                                                                                                                                    Lipid
                                                                                                                756
                                                                                                                         153
189
189
296
492
630
311
                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B28821
                                                                                                                AA;
                                                                                                                                                                                                                    degradation;
                                                                                                                                                                                                                               PIPLC_X_DOMAIN; PIPLC_Y_DOMAIN;
                                                                                                                                                                                                                                                 PH_DOMAIN; 1.
C2_DOMAIN_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ormatics Institute. There are no rest institutions as long as its content
                                                                                                                          130
164
200
440
609
720
311
                                                                                                                85962 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  EF-hand.
                                                                                19.7%; Score 1258; 35.8%; Pred. No. 3
                                                                                                                                                                                                                                                                                                                           PLC_Y;
                                                                       131;
                                                                                                                                                                                                                                                                                                                                                                                                                     _Xdom
                                                                                                                                             PH.

EF-HAND 1

EF-HAND 2

DOMAIN X.

DOMAIN Y.

C2 DOMAIN
                                                                                                                                                                                                                     Transducer; Calcium-binding; Repeat;
                                                                                                                E33F2313AC81E9F9 CRC64;
                                                                        Mismatches
                                                                                                                                               DOMAIN
                                                                                                                                                                            (POTENTIAL).
                                                                                   .2e-54;
                                                                                           DB 1;
                                                                        273;
                                                                                          Length 756;
                                                                        Indels
                                                                         148;
                                                                       Gaps
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PID1
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                                                                  Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutel
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora;
Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                             BOVIN
                                                                                                                                                                             01-JUL-1989 (Rel. 11, Created)
01-JUL-1989 (Rel. 11, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase delta
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase delta
(EC 3.1.4.11) (PLC-delta-1) (Phospholipase C-delta-1) (PLC-III)
                                         Bovidae; Bovinae; Bos.
NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                              PID1_BOVIN
P10895;
                                                                                                                                                                    STCD.
                                                                                                                                         os taurus (Bovine).
EQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   864
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         571
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SVATHDIEMEAASS --- WQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SKNGDQHPSATLFVKISIQD 756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NNGFNPRWDMEFEFEVTVPDLALVRFMVEDYDSSSKNDFIGQSTIPWNSLKQGYRHVHLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NYSPVEMWNGGCQIVALNEQTPGPEMDVYLGCFQDNGGCGYVLKPAFLRDPNTTFNSRAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SVHFGGFSSPGTSGQAFYEMASFSESRALRLLQESGNGFVRHNVSCLSRIYPAGWRTDSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LVVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTK 630
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ----SLEDEEIETFYKMLTQRAEIDRAFEEAAGSAETLSVERLVTFLQHQQREEEAGPAL
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                                                                                                                                                                                                                                                                                                                                                  STANDARD;
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                                                                                                                                                                                                                                                                                                                                                  695
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                                                                                                      Euteleostomi;
                                                                                   Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 478
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                                                                                                                                                                       Query Match
                                                                                                                                                                                                                ACT_SITE
                                                                                                                                                                                                                                                                                    CA_BIND
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pfam; PF00387; PI-PLC-Y; 1. Pfam; PF00388; PI-PLC-X; 1. ProDom; PD001202; PI_PLC_Y; 1.
199 VNLPRQRVKQMFREAD---TDDHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLD 255
                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                              NON_TER
                                                                                                                                                                                                                                                                                                                                     PROSITE; PS50007; PIPIC_X_DOMAIN; 1.
PROSITE; PS50008; PIPIC_Y_DOMAIN; 1.
Hydrolase; Lipid degradation; Transd
                                                                                                                                                                                                                                                                                                                                                                                                                       SMART; SM00239; C2; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF00036; efhand; Pfam; PF00168; C2; 1. Pfam; PF00169; PH; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro; IPR001849;
InterPro; IPR000909;
InterPro; IPR001711;
                                                                                                                                                                                                                                           NIAMOC
                                                                                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                  PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HSSP; P10688;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; M20638; AAA30710.1; -. PIR; C28821; C28821.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    or send an email to license@isb-sib.ch)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   modified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Suh P.-G., Ryu S.H., Moon K.H., Suh H.W., Rhee S.G.; "Cloning and sequence of multiple forms of phospholipase C."; Cell 54:161-169(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the European Bioinformatics Institute. There are no restuse by non-profit institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR000008; C2.
InterPro; IPR002048; EF-hand.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=88270495; PubMed=3390863; Suh P.-G., Ryu S.H., Moon K.H., Suh H.W., Rhee S.G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -1- FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3)
                                    57
                                                                                                          83 EKAKISIDSIQEVSEGRQSEVFQRY----PDGSFDPNCCFSIYHGSHRESLDLVSTSSEV 138
                                                                                                                                                            Local
                                                                                  SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.

SIMILARITY: CONTAINS 1 C2 DOMAIN.

SIMILARITY: CONTAINS 1 PH DOMAIN.

SIMILARITY: CONTAINS 2 EF-HAND CALCIUM-BINDING DOMAINS.
                                                     ARTWVTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLN 198
                           AQHWVQGLGKI---IHHSGSMDQQQKLR-HWIHSCLRKADKNKDNKMSFKELQNFLKELN 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COFACTOR: C
SIMILARITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
                                                                                                                                             296;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SWISS-PROT entry is copyright. It is produced through a collaboration en the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                            PS00018; EF_HAND; 2.
PS50003; PH_DOMAIN; 1.
PS50004; C2_DOMAIN_2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           non-profit institutions as long and this statement is not removed.
                                                                                                                                                                                                 695 AA;
                                                                                                                                             Conservative
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139
139
379
548
659
                                                                                                                                                       19.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; PI_PLC_Y.
nd; 2.
                                                                                                                                                                                                   78685 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PH.
                                                                                                                                         122;
                                                                                                                                                                                          PH.
EF-HAND 1 (POTENTIAL).
EF-HAND 2 (POTENTIAL).
DOMAIN X.
DOMAIN Y.
C2 DOMAIN Y.
C2 DOMAIN.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                         Score 1235.5;
Pred. No. 3.6e
                                                                                                                                                                                                                                                                                                                                   Transducer; Calcium-binding;
                                                                                                                                          Mismatches
                                                                                                                                                         3.6e-53;
                                                                                                                                                                   DB 1; Length 695;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Usage by
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                                                                                                                                                                                                                                                                                                                                   Repeat
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         PIG1_BOVIN STANDARD; PRT; 1291 AA.
P08487;
01-AUG-1988 (Rel. 08, Created)
01-AUG-1988 (Rel. 08, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
15-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
                                                                                                                              SEQUENCE FROM N.A., AND PARTIAL SEQUENCE. MEDLINE-88156963; PubMed-2831461; Stahl M.L., Ferenz C.R., Kelleher K.L., K
                                                                                                                                                                                                                                                                          Bovidae;
                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pec
                                                                                                                                                                                                                                                                                                                                                                                       PLCG.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                347
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                                                   Nature 332:269-272(1988).
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  PHOSPHORYLATION
                                                                                                       Sequence similarity of phospholipase
                                                                                                                                                                                                                                                                                                                                                       taurus (Bovine).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VTVEIHGVTGDVASRQTAVVTNNGFNPWWDTELEFEVAVPELALVRFVVEDYDASSKNDF
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                                                                                                                                                                                                                                                                                                                                                                                                                                     .4.11) (PLC-gamma-1) (Phospholipase C-gamma-1) (PLC-II)
                                                                                                                                                                                                                                                                          Bovinae;
  SITES
                                                                                                                                                                                                                                                                          Bos.
                                                                                                                                                                                                                                                                                                          Ruminantia; Pecora;
                                                                                                               a
                                                                                                            With
                                                                                                            R.W., Knopf J.L.;
the non-catalytic region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               695
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PDB;

2PLE; 2PLD;

26-JAN-95 26-JAN-95.

InterPro;

; IPR000008; ; IPR002048; ; IPR001849; ; IPR001192;

C2. EF-hand. PH.

InterPro; InterPro; InterPro; InterPro; InterPro;

PI\_PLC.
PI\_PLC\_xdom.
PI\_PLC\_y.
SH2.
SH3.

InterPro; IPR000980;

InterPro;

IPR001452; IPR000909; IPR001711;

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yamma 1 phosphorylation on tyrosine Cell 65:435-441(1991).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WEDLINE=90.154081; PubMed=1689311; WEDLINE=90.154081; PubMed=1689311; Whal M.I., Nishibe S., Kim J.W., Kim H.K., Rhee S.G., Carpenter G. "Identification of two epidermal growth factor-sensitive tyrosine phosphorylation sites of phospholipase C-gamma in intact HSC-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Tyrosine residues in bovine phospholipase C-gamma the epidermal growth factor receptor in vitro.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=90154080; PubMed=1689310;
Kim J.W., Sim S.S., Kim U.H., Nishibe S., Whal M.I.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  pascal S.M., Singer A.U., Gish G., Yamazaki T., Shoelsc
Pawson T., Kay L.E., Forman-Kay J.D.;
"Nuclear magnetic resonance structure of an SH2 domain
phospholipase C-gamma 1 complexed with a high affinity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Schlessinger J., Rhee S.G.; "PDGF stimulation of inositol phospholipid hydrolysis requires
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=91208680;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cells."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PHOSPHORYLATION SITES.
                                                                                                                                                                                                                                                              between the Swiss Institute of Bioinformatics the European Bioinformatics Institute. There a use by non-profit institutions as long as i modified and this statement is not removed. Us
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRUCTURE BY NMR OF 663-759
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                                                                                                                                                                                                                                                                                                                                                                  -i- SIMILARITY: CONTAINS 2 SH2 DOMAINS.
-i- SIMILARITY: CONTAINS 1 SH3 DOMAIN.
-i- SIMILARITY: CONTAINS 1 EF-HAND CALCIUM-BINDING DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=94236690; PubMed=8181064;
                                                                                                                                                                                               EMBL;
                                                                                                                                                                                                                                                entities requires a license agreement (See http://www.isb-sib.ch/announce,
                                                                                                                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Biol. Chem. 265:3944-3948(1990)
                                                                                                                                                                                                                                 send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) IS MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE C ENZYMES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LINE=91208680; PubMed=1708307; H.K., Kim J.W., Zilberstein A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
SIMILARITY: CONTAINS 1 C2 DOMAINS. THE SECOND ONE IS IN TWO SIMILARITY: CONTAINS 2 PH DOMAINS. THE SECOND ONE IS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PTM: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-GAMMA 1 AND 2 INVOLVES THEIR PHOSPHORYLATION BY TYROSINE KINASES IN RESPONSE TO LIGATION OF A VARIETY OF GROWTH FACTOR RECEPTORS AND IMMUNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CATALYTIC ACTIVITY: 1-phosphatidy1-1D-myo-inositol 4.5-bisphosphate + H(2)0 - D-myo-inositol 1.4.5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COFACTOR: Calcium.
                                                                                                                                                                                                                                                                                                                                                                                                                   PARTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SYSTEM RECEPTORS
                                                                                                                                                                                 s00666;
                                                                                                                                                                                                 Y00301; CAA68406.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     lglycerol
                                                                                                                                                                                   S00666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         265:3940-3943(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Yamazaki T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Margolis B., Kim J.G.,
                                                                                                                                                                                                                                                                                 There are no restrictions ng as its content is in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        residues
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                                                                                                                                                                                                                                                                                                                   and the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        783 and 1254.";
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SMART; SMOU252,

R SMART; SMO0326; SH3; 1.

JR PROSITE; PSO0018; EF_HAND; 1.

DR PROSITE; PS50001; SH2; 2.

DR PROSITE; PS50003; PH_DOMAIN; 2.

DR PROSITE; PS50004; C2_DOMAIN; 1.

DR PROSITE; PS50007; PIPLC_X_DOMAIN; 1.

DR PROSITE; PS50008; PIPLC_X_DOMAIN; 1.

PROSITE; PS50001; SH3 domain; SH3 domain; PROSITE; PS50008; PIPLC_X_DOMAIN; 1.

PROSITE; PS50001; PIPLC_X_DOMAIN; 1.

PROSITE; PS50000; PIPLC_X_DOMAIN
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DOMAIN 17
CABIND 165 176
DOMAIN 320 464
DOMAIN 489 523
DOMAIN 550 657
DOMAIN 668 756
DOMAIN 671 851
DOMAIN 791 851
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Pfam; PF00168; C2; 1.

Pfam; PF00169; PH; 2.

Pfam; PF00387; PI-PLC-Y; 1.

Pfam; PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                      284
                                                                                                                                                                                                                                                232
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                                                                                                                                                                                                                                                                                                                                                                          188
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              74 IRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRY-PDGSF--DPNCCFSIYHGS--HRES 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
AFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSDQMLKGKI 462
                                                                                        GDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKY
                                                                                                                                                                          FEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQD-MTQPLSHYFTTSSHNTYLV 342
                                                                GDQFSSESSLEAYARCLRMGCRCIELDCWDGPDGMPVIYHGHTLTTKIKFSDVLHTIKEH
                                                                                                                                               Y------FFLDEFVTFLFSKENSIWNSQLDEVCPDTMNNPLSHYWISSSHNTYLT
                                                                                                                                                                                                                                 FLEASALRAGERPELCRVSLPEFQQFLLEYQGELWAVDRLQVQEFMLSFLRDPLREIEEP
                                                                                                                                                                                                                                                                           MLTYS----NHKDHLDAASLQRF-------LQVEQKMAGVTLESCQDIIEQ
                                                                                                                                                                                                                                                                                                                   KDLKNMLSQVNYRVPNMR----FLRERLTDLEQRTSDITYGQFAQLYRSLMYSAQKTMDLP 231
                                                                                                                                                                                                                                                                                                                                                             GEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGT--LGFEEFCAFYK--MMSTRRDLYLL
                                                                                                                                                                                                                                                                                                                                                                                                       LSLQATSEDEVNMWIRGLTWLM-----EDTLQAATPLQIERWLRKQFYSVDRNREDRISA 174
                                                                                                                                                                                                                                                                                                                                                                                                                                          LDLVSTSSEVARTWVTGLRYLMAGISDEDSL-ARRORTRDQWLKQTFDEADKNGDGSLSI 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ITWSRGADKIEGAIDIREIKEIRPGKTSRDFDRYQEDPAFRPDQSHCFVILYGMEFRLKT 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SM00233; PH; 2.
SM00148; PLCXC; 1.
SM00149; PLCYC; 1.
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SM00233; PH;
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PD000093; SH2; 2.
PD0001202; PI_PLC_Y; 1.
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26.1%;
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C2 DOMAIN.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 1009; DB 1;
Pred. No. 7.8e-42;
1; Mismatches 317;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1291;
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                                                                                                                                            PIB4_HUMAN STANDARD; PRT; 1175 AA.
015147; Q9UQQ2; Q9BQW5; Q9BQW6; Q9BQW8;
16-OCT-2001 (Rel. 40, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
(EC 3.1.4.11) (PLC-beta-4) (Phospholipase C-beta-4).
                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae.
                   TISSUE-Retina
                                SEQUENCE FROM N.A. (ISOFORM 1).
                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9606;
                                                                                                                   Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1059
                                                                                                                                                                                                                                                                                                                                                                                                                                                785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            820 NVEKQEGGWWRGDYGGKKQLWFPSNYVEEMVSPAALEPEREHLDENSPLGDLLRGVLDVP 879
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            463 LVKGKKLPA------NISEDAEEG-----
                                                                                                                                                                                                                                                                                                                                                                        FIGORTLAFSSMMPGYRHV----YLEGMEEASIFVHVAV 877
                                                                                                                                                                                                                                                                                                                                                                                                     VEIEVAGAEYDSIKQKTEFVVDNGLNPVWPAKPFHFQISNPEFAFLRFVVYEEDMFSDQN 1171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HCGYVLQPSVMRDEAFDPFDKSSLRGLEPCAICIEVLGARHLPK-----NGRG-IVCPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCGYVLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GKMMERR-KKIALELSELVVYCRPVPFDEEKIGTERACYRDMSSFPETKAEKYVNKAKGK 998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACQIAVRPEGKNNRLFVFSISMASVAHWSLDVAADSQEELQDWVKKIREVAQTADARLTE 939
                                                                                                                                                                                                                                                                                                                                                                                                                                     VEVEIIGLPVDCSREQTRVVDDNGFNPTW-EETLVFMVHMPEIALVRFLVWDHDPIG-RD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KFLQYNRLQLSRIYPKGQRLDSSNYDPLPMWICGSQLVALNFQTPDKPMQMNQALFLAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GATROKKTMKLSRALSDLVKYTKSVATHD--IEMEAASSWQVSSFSETKAHQILQQ-KPA 664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DGSFLVRESETFVGDYTLSFWRNGKVQHCRIHSRQDAGTPKFFLTDNLVFDSLYDLITHY 639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DVESGE-----DAGASR-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ALEKIGTAEPDYGALYEGRNPGFYVEANPMPTFKCAVKALFDYKAQREDELTFTKSAIIQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                \tt NSYAISFRAEGKIKHCRVQQEGQTVMLGNSEFDSLVDLISYYEKHPLYRKMKLRYPINEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QQVPLRCNEFEMRLSEPVPQTNAHESKEWYHASLTRAQAEHMLMRVPRDGAFLVRKRNEP 699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ------RNGRLVVGSFSRRKKKGSKLKKAASVEE------GDEGQDSPGGQSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----TLSPS-GKL--GR------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEETSSDQGNEDEEEPKEASGSTELHSNEKWFHGKLGAGRDGRHIAERLLTEYCIETGAP 579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -EVSDEDSADEIDDDCKLLNG--DASTNRKRV-----ENTAKRKLDS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ----LIKES-----KIRDC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LIKHKKLAEGSAYEEVPTSVMYSENDISNSIKNGILYLEDPVNHEWYPHYFVLTSSKIYY 519
                                                                                   Hominidae;
                                                                                              Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -----EDP 532
                                                                                                                                                                 beta
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RA Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.,
RA Chapg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
RA Collson A., Goville G.J., Deadman R., Dhami p.D., Dunn M.,
RA Collson A.G., Frankland J.A., Fraser A., French L., Garner P.,
RA Ellington A.G., Frankland J.A., Fraser A., French L., Garner P.,
RA Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,
RA Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,
RA Huckle E., Hunt A.R., King A., Knights A., Laird G.K., Lawlor S.,
RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
RA Huckle E., Hunt S.L., McConnachie L.J., McLay K., McMurray A.A.,
RA Mine S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,
RA Mine S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,
RA Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I.,
RA Rice C.M., Ross M.T., Soott C.E., Sehra H.K., Shownkeen R., Sims S.,
RA Swann R.M., Sycamore N., Taylor R., Tee L., Thomas D.W., Thorpe A.,
RA Mineight, Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
RA Milning L., Whittaker P., Willey D.L., Williams L., Williams S.A.,
RA Milming L., Whittaker P., Willey D.L., Williams L., Williams S.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alvarez R.A., Ghalayini A.J., Xu P., Hardcastle A., Bhattacharya S., Rao P.N., Pettenati M.J., Anderson R.E., Bachr W.; "cDNA sequence and gene locus of the human retinal phosphoinositide-specific phospholipase-C beta 4 (PLCB4)."; Genomics 29:53-61(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R., Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L., Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M., Bears D.M., Bears D.M., Blakey S.E., Bridgeman A.M., Brown A.J., Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P., Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.
                                                                                                                                                                                                                                                                                                                                                                   This SWI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE-21638749;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A. (ISOFORMS 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nature 414:865-871(2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "The
Pfam;
Pfam;
Pfam;
                                                                                                                                                                                                                                                                                                 entities requires a
                                                                                                                                                                                                                                                                                                                 use by non-profit institutions as long modified and this statement is not removed
                                                                                                                                                                                                                                                                                                                                                      the
                                               InterPro; IPR001192; PI_PLC_X
InterPro; IPR000909; PI_PLC_X
InterPro; IPR001711; PI_PLC_X
                                                                                                     interPro;
                                                                                                                                                                                                                                                                            tities requires a license agreement (S send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) IS
MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
C ENZYMES. THIS FORM HAS A ROLE IN RETINA SIGNAL TRANSDUCTION.
CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-
bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate +
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ALTERNATIVE PRODUCTS: At least 3 isoforms; 1, 2 (shown here) and 3; are produced by alternative splicing.
TISSUE SPECIFICITY: PREFERENTIALLY EXPRESSED IN THE RETINA.
SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN FOUR DIFFERENT FORMS
                                                                                                                                                                                                                                                                                                                                                S SWISS-PROT entry is copyright. It is produced through a ween the Swiss Institute of Bloinformatics and the EMBI European Bloinformatics Institute. There are no restric
                                                                                                                                                                                                                                                                                                                                                                                                                        OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY. SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COFACTOR: Calcium.
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                                                                                                                                                        L41349; AAB02027.1;
P10688; 1DJX.
                                                                                                                                                                                         AL031652; CAA21068.1; -. AL023805; CAC34525.1; -. AL023805; CAC34527.1; -. AL023805; CAC34528.1; -.
PF00168; C2; 1.
PF00387; PI-PLC-Y; 1.
PF00388; PI-PLC-X; 3.
                                                                                                                                      10688; 1DJX
HGNC:9059; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sequence and comparative analysis of human chromosome
                                                                                                     IPR000008;
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                                                                                                                                          PLCB4.
                                                                                                                                                                                                                                                                                                                                    ormatics Institute. There are no restinstitutions as long as its content
                                                                                                     C2.
                                                                       _Xdom.
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                                                                                                                                                                                                                                                                                                                     Usage
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ACT_SITE
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PROSITE; PS50007; PIPLC_X_DOMAIN; 1.
PROSITE; PS50008; PIPLC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CONFLICT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRINTS; PR00390; PHPHLIPASEC.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ROSEVFORYPDGS -- FDPNCCFSIYH---
                                                                                                                                                                                                                                                                                                                     D--GPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQ 429
                                                                                                                                                                                                                                                                                                                                                           PVFLDRLELYQEMDHPLAHYFISSSHNTYLTGRQFGGKSSVEMYRQVLLAGCRCVELDCW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEDSLARRQRTRDQWLKQTFDEADKNGDGSLSIGE------VLQLLHKLNVNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QEGAVFDRYEEESFVFEPNCLFKVDEFGFFLTWRSEGKEGQVLECSLINSIRSGAIPKDP
                                                                                                                                                                                                                                                      YLTDILGD----KLDLSSVSSEDATTLPSPQMLKGKILVKGKKL-----
                                                                                                                                                                                                                                                                                         DGKGEDQEPIITHGKAMCTDILFKDVIQAIKETAFVTSEYPVILSFENHCSKYQQYKMSK
                                                                                                                                                                                                                                                                                                                                                                            VSFLNEHQRDPRLNEILFPFYDAKRAMQIIEMYEPDEDLKKKGLISSDGFCRYLMSDENA 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QRFLQVEQKMAGVT-----LESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGD 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       P-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRORVKOMFREADTDDHOGT-LGFEEFCAFYKMMSTRRDLYLLMLTYSNHK-DHLDAASL 259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -ANNVSPMTCLKKHWMKLAF---MTNTNGKIPVRSITRTFASGKTEKVIFQALKEL--GL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KILAALEAVGKSENDLEGRIVCVCSGTDLVNISFTYMVAENPEVTKQWVEGLRSIIHNFR 137
                                          KKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVATHDIEM-
                                                                                                                                                                                                                   YCEDLFGDLLLKQALESHPLEPGRALPSPNDLKRKILIKNKRLKPEVEKKQLEALRSMME
                                                                                                            IKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRK
                                                                                                                                               AGESASPANILEDDNEEEIESADQEEEAHPEFKFGNELSADDLGHKEAVANSVKKGLVTV
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SM00148; PLCXC; 1.
SM00149; PLCYC; 1.
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902
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29.2%;
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LAFMTNINGKLPVR -> MNNNW
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           -GA----TTNIHPYLSTMINYAQPVKFQGFHVA
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308;

Indels Length

Gaps

32;

122

191

422

469

362

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154

1175; 275;

CRC64;

MNNWNVCFFLFCP

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RA Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R., And Deloukas P., Matthews L.H., Ashurst J., Babbage A.K., Bagguley C.L., Ra Dones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L., Ra Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M., Ra Bailey O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J., Ra Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P., Ra Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M., Ra Chegy S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R., Clay S., Colley V.E., Collier R.E., Connor R.E., Corby N.R., Ra Ellington A.G., Frankland J.A., Fraser A., French L., Garner P., Ra Ellington A.G., Frankland J.A., Fraser A., French L., Garner P., Ra Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J., Ra Huckle E., Hunt A.R., Hunt S.E., Jekosoh K., Johnson C.M., Johnson D., Ra Kay M.P., Kimberley A.M., King A., Knights A., Johnson C.M., Johnson D., Ra Kay M.P., Kimberley A.M., King A., Knights A., Johnson C.M., Lawlor S., Harley D., Moore M.J.P., Mullikin J.C., Nickerson T., Ra Milne S.A., Mistry D., Moore M.J.P., Mullikin J.C., Nickerson T., Ra Oliver K., Parker A., Patel R., Pearce T.A., V., Peck A.I., Shownkeen R., Sims S., Ra Rice C.M., Ross M.T., Scott C.E., Sehra H.K., Shownkeen R., Sims S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Burgess W.H., Dionne C.A., Kaplow J.M., Mudd R., Friesel R., Zilberstein A., Schlessinger J., Jaye M.; Characterization and cDNA cloning of phospholipase C-gamma, a magnificate for heparin-binding growth factor 1 (acidic fibroblast growth factor)-activated tyrosine kinase."; Mol. Cell. Biol. 10:4770-4777(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=21638749;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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01-NOV-1990 (Rel. 16, Last sequence update)
15-UNV-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase gamma 1
(EC 3.1.4.11) (PLC-gamma-1) (Phospholipase C-gamma-1) (PLC-II)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE=Vein, and Brain;
MEDLINE=90355993; PubMed=2167438;
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Mammalla; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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PRINTS; PR00390; PHPHLIPASEC.
PRINTS; PR00401; SH2DOMAIN.
PRINTS; PR00452; SH3DOMAIN.
PRODOm; PD000066; SH3; 1.
PRODOm; PD000093; SH2; 2.
PRODOm; PD001202; PI\_PLC\_Y; 1.

Pfam; PF00387; Pfam; PF00388; Pfam; PF00168; C2; Pfam; PF00169; PH;

PI-PLC-Y; 1. PI-PLC-X; 1.

InterPro;

InterPro;

InterPro;

PF00017; SH2; PF00018; SH3; PF00017;

ProDom; SMART; S

SM00239; C2; 1. SM00233; PH; 2.

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InterPro;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SIMILARITY: CONTAINS 2 SH2 DOMAINS.
SIMILARITY: CONTAINS 1 SH3 DOMAIN.
SIMILARITY: CONTAINS 1 EF-HAND CALCIUM-BINDING DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SIMILARITY: CONTAINS 1 C2 DOMAIN. SIMILARITY: CONTAINS 2 PH DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PTM: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-GAMMA 1 AND 2 INVOLVES THEIR PHOSPHORYLATION BY TYROSINE KINASES IN RESPOND IN LIGATION OF A VARIETY OF GROWTH FACTOR RECEPTORS AND IM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FUNCTION: PLC-GAMMA IS A MAJOR SUBSTRATE FOR HEPARIN-BINDING GROWTH FACTOR 1 (ACIDIC FIBROBLAST GROWTH FACTOR)-ACTIVATED
                                                                                                                                                                                                                                                                                                                                                                            A36466; A36466
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SYSTEM RECEPTORS
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414:865-871(2001).
                                                                                                                                                                               ; IPR001192; PI_PLC.
; IPR000909; PI_PLC_Xdom.
; IPR001711; PI_PLC_Y.
; IPR000980; SH2.
; IPR001452; SH3.
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PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50007; PIPIC_X_DOMAIN; 1.
PROSITE; PS50008; PIPIC_X_DOMAIN; 1.
Hydrolase; Lipid degradation; Transd
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                                                                                                                       IKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKILV::||||||||||||||
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                                                                 KHKKLAEGSAYEEVPTSMMYSENDISNSIKNGILYLEDPVNHEWYPHYFVLTSSKIYYSE
                                                                                                              VASEYPVILSIEDHCSIAQQRNMAQYFKKVLGDTL-LTKPVEISADGLPSPNQLKRKILI
                                                                                                                                                        QFSSESSLEAYARCLRMGCRCIELDCWDGPDGMPVIYHGHTLTTKIKFSDVLHTIKEHAF
                                                                                                                                                                                                                        PCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQD-MTQPLSHYFITSSHNTYLVGD
 ---LIKES--
                       ETSSDQGNEDEEEPKEVSSSTELHSNEKWFHGKLGAGRDG-RHIAERLLTEYCIETGAPD
                                             DA-----EEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDS------
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SM00326;
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                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               52; SH2;
26; SH3;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AA;
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25.1%;
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                                                                                                                                                                                                                                                                                                                                                                                                                               157; Mismatches
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C2 DOMAIN.
BY SIMILARITY.
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PHOSPHORYLATION (BY SIMILARITY).
PHOSPHORYLATION (BY SIMILARITY).
PHOSPHORYLATION (BY SIMILARITY).
I -> T (IN DBSNP:753381).
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 -KIRDC-
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Pred. No. 2.8
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DOMAIN X.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 (SECOND
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AE05ABE2A18EDDAC CRC64;
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nes 331;
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                                                                                                                                                                                                                                                                                                                                                                                                                                Indels 423;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1290;
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ID PIBA
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Q9QW07; Q9Z0G6; O8B356;
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
(EC 3.1.4.11) (PLC-beta-4) (Phospholipase C-beta-4).
                                                                                                                                                            SEQUENCE FROM N.A. (ISOFORM A).
STRAIN-Sprague-Dawley; TISSUE-Brain;
MEDLINE-94012687; PubMed-8407970;
Lee C.-W., Park D.J., Lee K.-H., Kim C
"Purification, molecular cloning, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1173
                                                                                                                                                                                                                                                                                                                        Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
MCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1060
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  STRAIN=Sprague-Dawley; TISSUE=BrameDLINE=93343926; PubMed=7688223;
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                                                        SEQUENCE FROM N.A. (ISOFORM B).
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                                                                                                              Chem.
                                                                                                              268:21318-21327(1993).
                               TISSUE-Brain;
                                                                                                                                                                                                                                                                                                                                                          Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
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SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Biochim. Biophys. Acta 1444:55-60(1999).

-!- FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (1P3) IS MEDIATED BY ACTIVATED PHOSPHATID/LINOSITOL-SPECIFIC PHOSPHOLIPASE C ENZYMES. THIS FORM HAS A ROLE IN RETINA SIGNAL TRANSDUCTION.
-!- CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate +
                                                                                                                                                                                                                                                                                                                                   PROSITE;
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                                                                                                                                                                                                                                                                                                                     PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro;
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                                                                                                                                                                                  ARSPLIC
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                                                                                                                                                                                                                                                                                 Iternative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cerebellum and eye."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Adamski F.M., Timms K.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=99132015; PubMed=9931434;
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                                                                                                                                                                                                                                                                                                      ydrolase;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ALTERNATIVE PRODUCTS: 3 ISOFORMS; A (SHOWN HERE), B AND C; ARE PRODUCED BY ALTERNATIVE SPLICING.
TISSUE SPECIFICITY: PREFERENTIALLY EXPRESSED IN THE RETINA.
SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN FOUR DIFFERENT FORMS
OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COFACTOR: Calcium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AF031370; AAC98145.1; -. AF027571; AAC24984.1; -. P10688; IDJX.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    PF00387; PI-PLC-Y; 1. PF00388; PI-PLC-X; 1.
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U57836; AAD10403.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                PS50004; C2_DOMAIN_2; 1.
PS50007; PIPLC_X_DOMAIN;
PS50008; PIPLC_Y_DOMAIN;
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IPR000909; PI_PLC_xdom.
IPR001711; PI_PLC_x.
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                                                                                                                                                                                                                                                                                               Lipid degradation;
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BY SIMILARITY.
VKEIVAQHTK -> GKQRDASPSG (IN ISOFORM B).
MISSING (IN ISOFORM B).
AKEMQQMVKLEAEMDRRPATVY -> LLKSCHAVSQTQGEG
                                                                                                                                                                                                              C2 DOMAIN.
BY SIMILAR
                                                                                                                                                                                                                                              DOMAIN Y.
                                                                                                                          DAADGEIGSRDGPQTSNSSMKLQNAN (IN ISOFORM
                                                                                                                                                                                                                                                                                           Transducer; Phosphorylation; Calcium;
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          758 LRIISGOQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQ--TRVVDDNGFNPTW-
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Pred. No. 2.8
-GA----TTNIHPYLSTMINYAQPVKFQGFHVAE
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Suh P.-G., Ryu S.H., Moon K.H., Suh H.W., Rhee S.G.;
"Inositol phospholipid-specific phospholipase C: complete
protein sequences and sequence homology to tyrosine kinase
oncogene products.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-JUL-1989 (Rel. 11, Created)
01-JUL-1989 (Rel. 11, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase gamma 1
(EC 3.1.4.11) (PLC-gamma-1) (Phospholipase C-gamma-1) (PLC-II)
(PLC-148).
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                   EMBL; J03806; AAA41921.1;
PIR; A31317; A31317.
HSSP; P08487; 2PLD.
                       InterPro;
                                                                                                                                                                                                                                                                                                                                                                       C. Natl. Acad. Sci. U.S.A. 85:5419-5423(1988).

FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
DIACYLGLYCEROL (DAG) AND INCSITOL 1,4,5-TRISPHOSPHATE (IP3) IS
MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
C ENZYMES.
                                                                                                                                                                                                                                       SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                             SIMILARITY: CONTAINS 2 SH2 DOMAINS.
SIMILARITY: CONTAINS 1 SH3 DOMAIN.
SIMILARITY: CONTAINS 1 EF-HAND CALCIUM-BINDING DOMAIN.
                                                                                                                                                                                                                              SIMILARITY: CONTAINS
                                                                                                                                                                                                                                                                                     PTM: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-GAMMA 1 AND 2 INVOLVES THEIR PHOSPHORYLATION BY TYROSINE KINASES IN RESPONSE TO LIGATION OF A VARIETY OF GROWTH FACTOR RECEPTORS AND IMMUNE
                                                                                                                                                                                                                                                                                                                        diacylglycerol.
COFACTOR: Calcium.
                                                                                                                                                                                                                                                                                                                                                CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                            SYSTEM RECEPTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               --IFVHVA----VSDISGKVKQALGLKGLFLR-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ESFVFRKVILPDLAVLRIAVYDDN---NKLIGQRILPLDGLQAGYRHISLRNEGNKPLSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VQVISGQ-----FLSDKK--IGTYVEVDMYGLPTDTIRKEFRTRMVMNNGLNPVYNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NDKKGKANPAKANVTPQSSSELRPTTTAALGSGQEAKKGI-ELI 914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DSHAAGRPPARPSV---SQRILRRTASAPTKSQKPGRRGFPELV 944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PTIFCNIVLKTYVPDGFGDIVDALSDPKKFLSITEKRADQLRAMGIETSDIADVPSDTSK 871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ETLVF-MVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYL--EGMEEAS-
 IPR000008; C2.
IPR002048; EF-hand.
IPR001849; PH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                                              1 C2 DOMAIN.
2 PH DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1290
                                                                                                                                                                                                                              THE SECOND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                ase C: complete cDNA and tyrosine kinase-related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----GPKPGSL
                                                                                                                                                                                                                               ONE
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                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE;
                                                                                                                                                                                                                                                                                                                 MOD_RES
                                                                                                                                                                                                                                                                                                                                                    ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProDom;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRINTS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ProDom;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ProDom;
                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Repeat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE;
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                                                                                                                                                           118
                 290
                                        282
                                                                 230
                                                                                      242
                                                                                                                                                                                                                                                                  Local
                 EPY - - - -
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Pfam; PF00017; SH2; 2.
Pfam; PF00018; SH3; 1.
Pfam; PF00168; C2; 1.
Pfam; PF00169; PH; 2.
Pfam; PF00387; PI-PLC-Y; 1.
Pfam; PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR001192; PI_PLC.Xdom. InterPro; IPR001909; PI_PLC_Xdom. InterPro; IPR001711; PI_PLC_Y. InterPro; IPR001919; SH2.
InterPro; IPR001452; SH3.
                                                                                                                                                                                                                            127 ESLDLVSTSSEVARTWVTGLRYLMAGISDEDSL-ARRQRTRDQWLKQTFDEADKNGDGSL 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SMART; SM00148; PLCXc;
SMART; SM00149; PLCYc;
SMART; SM00252; SH2; 2
SMART; SM00326; SH3; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SMART; SM00239; C2;
SMART; SM00233; PH;
                                                                                                                                                                                                                                                                                            74 IRWRPSRKNEKAKISID--SIQEVSEGRQSEVFQRY-PDGSF--DPNCCFSIYHGS--HR 126
                                                                                                                              SAKDLKNMLSQVNYRVPNMR----FLRERLTDFEQRSGDITYGQFAQLYRSLMYSAQKTMD
                                                                                                                                                                                             KTLSLQATSEDEVNMWIKGLTWLM-----EDTLQAATPLQIERWLRKQFYSVDRNREDRI
                                                                                                                                                                                                                                                             ITW--SRGADKIEGSIDIREIKEIRPGKTSRDFDRYQEDPAFRPDQSHCFVILYGMEFRL 117
                                EQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHV-HQDMTQPLSHYFITSSHNTY
                                                               LPFLETNTLRTGERPELCQVSLSEFQQFLLEYQGELWAVDRLQVQEFMLSFLRDPLREIE
                                                                                                 LLML----TYSNHKDHLDAASLQRF-----
                                                                                                                                                               SIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQ--GTLGFEEFCAFYK--MMSTRRDLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PD000066; SH3; 1.
PD000093; SH2; 2.
PD001202; PI_PLC_Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PR00390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PR00452; SH3DOMAIN.
                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PS50003; PH_DOMAIN; 2.
PS50004; C2_DOMAIN_2; 1.
PS50007; PIPLC_X_DOMAIN; 1.
PS50008; PIPLC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PS50003; PH_DOMAIN;
PS50004; C2_DOMAIN_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PS50002; SH3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PS00018; EF_HAND;
                                                                                                                                                                                                                                                                                                                                                                                           895
953
1075
335
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783
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1253
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27 14
165 17
320 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           489
550
668
791
                                                                                                                                                                                                                                                                                                                              Conservative 157; Mismatches
----FFLDELVTFLFSKENSVWNSQLDAVCPETMNNPLSHYWISSSHNTY
                                                                                                                                                                                                                                                                                                                                                                                             A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           degradation; Transducer; SH2 domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SH2DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PHPHLIPASEC.
                                                                                                                                                                                                                                                                                                                                                                                                           464
523
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1177
335
380
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783
1253
                                                                                                                                                                                                                                                                                                                                           15.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ing; Phosphorylation.
                                                                                                                                                                                                                                                                                                                                                                                           148547 MW;
                                                                                                                                                                                                                                                                                                                                                                                                         C2 DOMAIN.
BY SIMILARITY.
BY SIMILARITY.
PHOSPHORYLATION (
PHOSPHORYLATION (
PHOSPHORYLATION (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PH 2 (FIRST PI
SH2 1.
SH2 2.
SH3.
PH 2 (SECOND I
                                                                                                                                                                                                                                                                                                                                             Pred. No.
                                                                                                                                                                                                                                                                                                                                                             Score 985; DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EF-HAND
                                                                                                                                                                                                                                                                                                                                                                                             BB3240C27972CE3B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                             1.1e-40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PART).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PART).
                                                                                                 ----LQVEQKMAGVTLESCQDII
                                                                                                                                                                                                                                                                                                                                                                                                            (BY SIMILARITY)
(BY SIMILARITY)
(BY SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                             Length 1290;
                                                                                                                                                                                                                                                                                                                               Indels 410;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SH3
                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                  241
                                                                                                                                                                                                   172
                                                                      289
                                                                                                                                   229
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01-MAR-1992 (Rel. 21, Created)
01-MAR-1992 (Rel. 21, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
(EC 3.1.4.11) (PLC-gamma-2) (Phospholipase C-gamma-2) (PLC
         Eukaryota; Metazoa;
                          Rattus norvegicus (Rat)
                                                                                                                                                                            PIG2_RAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            531 DPNNFSVSTLSPSGK-----
                                                                                                                                                                                                                                                               DQNFLAQATFPVKGLKTGYRAVPLKNNYSEDLELASLLIKIDI 1211
                                                                                                                                                                                                                                                                                                  -RDFIGORTLAFSSMMPGYRHV-----YLEGMEEASIFVHVAV 877
                                                                                                                                                                                                                                                                                                                                    CPFVEIEVAGAEYDSTKQKTEFVVDNGLNPVWPAKPFHFQISNPEFAFLRFVVYEEDMFS 1168
                                                                                                                                                                                                                                                                                                                                                                       DPFVEVEIIGLPVDCSREQTRVVDDNGFNPTW-EETLVFMVHMPEIALVRFLVWDHDPIG 840
                                                                                                                                                                                                                                                                                                                                                                                                         AGGHCGYVLQPSTMRDEAFDPFDKSSLRGLEPCVICIEVLGARHLPK-----NGRG-IV 1108
                                                                                                                                                                                                                                                                                                                                                                                                                                            ANGGCGYYLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEII 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KGKKFLQYNRLQLSRIYPKGQRLDSSNYDPLPMWICGSQLVALNFQTPDKPMQMNQALFM 1055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QSRGATRQKKTMKLSRALSDLVKYTKSVATHD--IEMEAASSWQVSSFSETKAHQILQQ-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DVPACQIAIRPEGKNNRLFVFSISMPSVAQWSLDVAADSQEELQDWVKKIREVAQTADAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LTEGKMMERR-KKIALELSELVVYCRPVPFDEEKIGTERACYRDMSSFPETKAEKYVNKA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IIQNVEKQDGGWWRGDYGGKKQLWFPSNYVEEMINPAILEPEREHLDENSPLGDLLRGVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NEEALEKIGTAEPDYGALYEGRNPGFYVEANPMPTFKCAVKALFDYKAQREDELTFTKSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EPNSYAIS-FRAEGKIKHCRVQQEGQTVMLGNSEFDSLVDLISYYEKHPLYRKMKLRYPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HYQQVPLRCNEFEMRLSEPVPQTNAHESKEWYHASLTRAQAEHMLMRVPRDGAFLVRKRN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APDGSFLVRESETFVGDYTLSFWRNGKVQHCRIHSRQDAGTPKFFLTDNLVFDSLYDLIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        YYSEETSSDQGNEDEEEPKEASGSTELHSSEKWFHGKLGAGRDGRHIAERLLTEYCIETG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----KIRDC--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KILIKHKKLAEGSAYEEVPTSVMYSENDISNSIKNGILYLEDPVNHEWYPHYFVLTSSKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KILVKGKKLPA---
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KYAFIKNEYPVILSIENHCSVIQOKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKG::||: :||| || || || || ||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----EDAGASR---
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -----RNGRLVVGSFSRRKKKGSKLKKAASVEE-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ---AEED----
                                                                                                                                                                           STANDARD;
     Chordata; Craniata; Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ------NISEDAEEG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ---VESG----
                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----LGRKSK----
                                                                                                                                                                       1265 AA
     Euteleostomi;
                                                       PLC-IV).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ---GDEGQDSPGG
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PRINTS; PR00388; PI-PLC-Y; 1.

PRINTS; PR00390; PHPHLIPASEC.

PRINTS; PR00401; SH2DOMAIN.

PRINTS; PR00452; SH3DOMAIN.

PRODOM; PD000066; SH3; 1.

PRODOM; PD00003; SH2; 2.

PRODOM; PD001202; PI_PLC_Y; 1.

SMART; SM00233; PH; 2.

SMART; SM00233; PH; 2.

SMART; SM00148: DYC.
                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR00008; C2.
InterPro; IPR001849; PH.
InterPro; IPR001192; PI_PLC_Xdom.
InterPro; IPR001909; PI_PLC_X.
InterPro; IPR001711; PI_PLC_Y.
InterPro; IPR0017452; SH3.
     PROSITE; PSS0001; SH2; 2.
PROSITE; PSS0002; SH3; 1.
PROSITE; PSS0003; PH_DOMAIN; 1.
PROSITE; PSS0004; C2_DOMAIN, 2; 1.
PROSITE; PSS0007; PIEC_X_DOMAIN.
                                                                                                           SMART;
                                                                                                                                                                                                                                                                                                                                                                                                      Pfam;
                                                                                                                                              SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an or send as
                                                                                                                                                                                                                                                                                                                                                                     Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; J05155; AAA418
PIR; A34163; A34163.
HSSP; P08487; 2PLD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        or send an email to license@isb-sib.ch)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation between Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    hydrolyzing activity.";

J. Biol. Chem. 264:21895-21890(1989).

-!- FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES

DIACYLGIYCEROL (DAG) AND INOSITOL 1.4.5-TRISPHOSPHATE (IP3) IS

MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE

C ENZYMES. IT IS A CRUCIAL ENZYME IN TRANSMEMBRANE SIGNALING.

CENZYMES. TIS A CRUCIAL ENZYME IN TRANSMEMBRANE SIGNALING.

-!- CATALYTIC ACTIVITY: 1-phosphatidy1-ID-myo-inositol 4.5-

bisphosphate + H(2)0 = D-myo-inositol 1.4.5-trisphosphate +
                                                                                                                                                                                                                                                                                                                                                                                                                           Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   <del>'</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ÷
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=90094370; PubMed=2557343; Emori Y., Homma Y., Sorimachi H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      containing a src-related sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Suzuki K., Takenawa T.
"A second type of rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SYSTEM RECEPTORS.

SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.

SIMILARITY: CONTAINS 1 C2 DOMAIN.

SIMILARITY: CONTAINS 1 PH DOMAIN.

SIMILARITY: CONTAINS 2 SH2 DOMAINS.

SIMILARITY: CONTAINS 1 SH3 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                             PF00017; SH2; 2.

1; PF00018; SH3; 1.

1; PF00168; C2; 1.

1; PF00169; PH; 2.
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                                                                                                   ; SM00148; PLCXC; 1.
; SM00149; PLCYC; 1.
; SM00252; SH2; 2.
; SM00326; SH3; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        J05155; AAA41896.1; -.
PS50008;
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                                                                                                                                                                                                                                                                                                                                                          458
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 290 NKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVH-QDMTQPLSHYFITSSHNTYLVGDQLMS 348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      74 IRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRYPDGSFDPNCCFSIYHGSH--RESLDL
813 TRIQQYFPSNYVEDISAGDAEEMEKQIIEDNPLGSLCRGILDLNTYNVVKAPQGKNQKAF 872
                                                         753 YDVSRMYVDPSEINPSMPQRTVKALYDYKAKRSDELTFCRGALIHNVSKEPGGWWKGDYG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATDSKEDAVKWLSGLKIL----HQEAMNASTPTMIESWLRKQIYSVDQTRRNSISLRELK 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEADKNGDGSLSIGEVL 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VAWSKTADKIEGFLDIMEIKEIRPGKNSKDFERAKAVRHKADCCFTIFYGTQFVLSTLSL 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNE 408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KKDSSVFIL---GNTDRPDASAVYLQDFQRFLLHEQQELWAQDLNKVRERMTKFIDDTMR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RRDLYLLMLTYSNHKDHLDAASL-----QRF-LQVEQKMAGVTLESCQDIIEQF-EPCPE 289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TILPLYNFKVSGIKFLKDKLVEIGAQKD-----ELSFEQFHLFYKKLMFEQQKSILDEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QLLHKLN-----VNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMM------ST
                                                                                                                                                                                                                                                                                                                                                                                                                                           YPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKK 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CRINRDGRHFVLGTSAYFESLVELVSYYEKHALYRKMRLRYPVTPELLERYNMERDINSL 752
                                                                                                                                                                            DPVPNPNPHESKPWYYDRLSRGEAEDMLMRIPRDGAFLIRKREGTDSYAITFRARGKVKH
                                                                                                                                                                                                                                                                     SVSTLSPSGKL-----
                                                                                                                                                                                                                                                                                                                                                       LGPRGDVDVNVEDKKDEHKTQGELYMWDSIDQKWTRHYCAIADAKLSFSDDIEQTVEEDP
                                                                                                                                                                                                                                                                                                                                                                                                                  FPVILSIEEHCSVEQQRHMAKVFKEVLGDLL-LTKPTEASADQLPSPSQLREKIIIKHKK 457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ETAEPFLFVDEFLTYLFSRENSIWDEKYDAVDMQDMNNPLSHYWISSSHNTYLTGDQLRS
                                                                                                                                                  --SRRNGR-LVVGS-----
                                                                                                                                                                                                                                      TLS-FWRSGRVQHCRIRSTMEGGVMKYYLTDNLTFNSIYALIQHYREAHLRCAEFELRLT 632
                                                                                                                                                                                                                                                                                               VQDTPPTELHFGEKWEHKKVESRTSAEKLLQEYCAETGAKDGTFLVRESE----TFPNDY 573
                                                                                                                                                                                                                                                                                                                           -----CKLLNGDASTNRKRVENTAKRKL-------DSLIKESKIRDCEDPNNF 535
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                             -----QDSP-GGQSRGA-----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15.2%;
25.2%;
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Pred. No. 7.1e-40;
75; Mismatches 301;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DOMAIN Y.
C2 DOMAIN.
BY SIMILARITY.
BY SIMILARITY.
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                                                                                        --FSRRKKKGSKL-----
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                                                                                                                                                                                                                                                                                                                                                                                        -----IDDD- 494
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                                                                                          -KKAASVEEGDEG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-AUG-1990 (Rel. 15, Created)
01-AUG-1990 (Rel. 15, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase gamma
(EC 3.1.4.11) (PLC-gamma-2) (Phospholipase C-gamma-2) (PLC-IV).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1101
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Lymphoblast;
MEDLINE-89078616; PubMed-2849563;
Ohta S., Matsui A., Nazawa Y., Kagawa Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P16885;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         human lymphocytes.";
FEBS Lett. 242:31-35(1988)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                610
use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.lsb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       745
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      873 VFILEPKKQGDPPVEFATDRVEELFEWFQSIREITWKIDTKENNMKYWERNQSIAIELSD
                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Complete cDNA encoding a putative phospholipase C from transformed
                                                                     the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in
                                                                                                                                                                       SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
SIMILARITY: CONTAINS 1 C2 DOMAIN.
SIMILARITY: CONTAINS 1 PH DOMAIN.
SIMILARITY: CONTAINS 2 SH2 DOMAINS.
SIMILARITY: CONTAINS 1 SH3 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                              FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (173) IS
MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
C ENZYMES. IT IS A CRUCIAL ENZYME IN TRANSMEMBRANE SIGNALING.
CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-
bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate +
                                                                                                                                                                                                                                                                                                                          PTM: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-GAMMA 1 AND 2 INVOLVES THEIR PHOSPHORYLATION BY TYROSINE KINASES IN RESPONSE TO LIGATION OF A VARIETY OF GROWTH FACTOR RECEPTORS AND IMMUNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EDPLPGQLKKQ-----LVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQ 800
                                                                                                                                                                                                                                                                                                                                                                                          COFACTOR: Calcium.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTVVNDNGLSPVWAPTQEKVTFEIYDPNLAFLRFLYYEEDMFSDPNFLAHATYPIKGIKS 1160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YDPMPPESQRKILMTLTVKVLGARHLPK-----LG--RSIACPFVEVEICGAEYDSNKFK 1100
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRV
                                                                                                                                                                                                                                                                                                        SYSTEM RECEPTORS.
                                                                                                                                                                                                                                                                                                                                                                                                            diacylglycerol
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TRYVDDNGFNPTW---EETLVFMVHMPEIALVRFLVWDHDPIG-RDFIGQRTLAFSSMMP 856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DSSNYDPFRLWLCGSQMVALNFQTPDKYMQMNHALFSLNGRTGYVLQPESM-----RSEK 1047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----KKTMKLSRALSD
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                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                       SMART; SM00252; SH2; 2.

SMART; SM00326; SH3; 1.

PROSITE; PS50001; SH2; 2.

PROSITE; PS50002; SH3; 1.

PROSITE; PS50004; C2_DOMAIN; 1.

PROSITE; PS50004; C2_DOMAIN_2; 1.

PROSITE; PS50008; PIPIC_X_DOMAIN; 1.

PROSITE; PS50008; PIPIC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPRO01849; PH. L.
InterPro; IPRO01992; PI_PLC. xdom.
InterPro; IPRO01999; PI_PLC_xdom.
InterPro; IPRO01711; PI_PLC_x.
InterPro; IPRO01711; PI_PLC_x.
InterPro; IPRO01452; SH3.
Pfam; PF00017; SH2; 2.
Pfam; PF00018; SH3; 1.
Pfam; PF00018; SH3; 1.
Pfam; PF00018; CG; 1.
Pfam; PF00018; DH; 2.
Pfam; PF00189; PH; 2.
Pfam; PF00189; PH; 2.
Pfam; PF00189; PH; 2.
                                                                                                                                                                                                                                                                                          ACT_SITE
ACT_SITE
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                         DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SMART;
                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
                                                          241 YLLMLTYSNHKDHLDAASL-----QRFL------QVEQKMAGVTLESCQDIIE
                                                                                                                                                           132 VSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEADKNGDGSLSIGEVL 191
                                                                                                                                                                                                                                                                                                                                                                                                                 Repeat; Calcium-binding; Phosphorylation.
                                                                                                                                                                                                                                                                                                                                                                                                                                  Hydrol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ProDom; PD000066; SH3; 1.
ProDom; PD000093; SH2; 2.
ProDom; PD001202; PI_PLC_Y; 1.
                                                                                            168
                                                                                                                                           112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRINTS; PR00390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; X14034; CAA32194.1;
EMBL; M37238; AAA60112.1;
PIR; S02004; S02004.
HSSP; P08487; 2PLD.
                                                                                                                                                                                                           74 IRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRYPDGSFDPNCCFSIYHGSH--RESLDL 131
                                                                                                                                                                                   52 VAWSKTADKIEGFLDIMEIKEIRPGKNSKDFERAKAVRQKEDCCFTILYGTQFVLSTLSL 111
         QFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVH-QDMTQPLSHYFITSSHNTYL
                                  SVFIL---GNTDRPDASAVYLHDFQRFLIHEQQEHWAQDLNKVRERMTKFIDDTMRETAE
                                                                                   TILPLINFKYSSAKFLKDKFYEIGA--HKDELSFEQFHLFYKKLMFEQQKSILDEFKKDS
                                                                                                        QLLHKLNVNLPRQR-VKQMFREADTDDHQGTLGFEEFCAFYKMM-----STRRDL 240
                                                                                                                                  AADSKEDAVNWLSGLKIL----HQEAMNASTPTIIESWLRKQIYSVDQTRRNSISLRELK 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    600220;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SM00239; C2; 1.
SM00233; PH; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SM00148; PLCXc; 1.
SM00149; PLCYc; 1.
                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HGNC: 9066; PLCG2.
                                                                                                                                                                                                                                                                                                        312
532
646
769
930
1059
1059
327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IPR000008; C2.
                                                                                                                                                                                                                                                                                                                                                                                                                         Lipid degradation; Transducer; SH2 domain; SH3 domain;
                                                                                                                                                                                                                                      Conservative 164; Mismatches 310;
                                                                                                                                                                                                                                                                                           AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SH2DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PHPHLIPASEC
                                                                                                                                                                                                                                                                                       0044 DOMAIN Y.
152 CZ DOMAIN.
327 BY SIMILARITY.
372 BY SIMILARITY.
146119 MW; 6F63F0516211
                                                                                                                                                                                                                                                    14.9%; Score 950.5;
25.1%; Pred. No. 5.2
                                                                                                                                                                                                                                                                                                                                                                              DOMAIN X.
SH2 1.
                                                                                                                                                                                                                                                                                       6F63F051621EEB64 CRC64;
  <del>--</del>
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                                                                                                                                                                                                                                                     5.2e-39;
                                                                                                                                                                                                                                                             DB 1; Length 1252;
                                                                                                                                                                                                                                      Indels 399;
Gaps
                                   282
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PIPI_DROME STANDARD; PRT; 1312 AA.

P25455; Q9VPN9;
01-MAY-1992 (Rel. 22, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase classes I and II (EC 3.1.4.11) (Phosphoinositide-specific phospholipase C).

PLC21C OR PLC-21 OR CG4574.
                                                                                                                                                                                                                          1158
                                                                                                                                                                                                                                                                                                                                                               1045
                                                                                                                                                                                                                                                      854 MMPGYRHV----YLEGMEEASIFV 873
                                                                                                                                                                                                                                                                                                                                                                                                                          990 QRVDSSNYDPFRLWLCGSQMVALNFQTADKYMQMNHALFSLNGRTGYVLQPESM----R 1044
                                                                                                                                                                                                                                                                                                                                                                                                                                                           682 YRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFN 741
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                495
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        462 ILVKGKKL-----PANI----SEDAEEGEVSDEDSADE-----IDDD-- 494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           392 HAFVTSSFPVILSIEEHCSVEQQRHMAKAFKEVFGDLL-LTKPTEASADQLPSPSQLREK 450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 402 YAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGK 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             283 PF-----LFVDEFLTYLFSRENSIWDEKYDAVDMQDMNNPLSHYWISSSHNTYL
                                                                                                                                                                                                                                                                                                                   REQTRVVDDNGFNPTW----EETLVFMVHMPEIALVRFLVWDHDPIG-RDFIGQRTLAFSS
                                                                                                                                                                                                                                                                                                                                                      TEKYDPMPPESQRKILMTLTVKVLGARHLPK-----LG--RSIACPFVEVEICGAEYGNN
                                                                                                                                                                                                                     VKSGFRSVPLKNGYSEDIELASLLV 1182
                                                                                                                                                                                                                                                                                   KFKTTVVNDNGLSPIWAPTQEKVTFEIYDPNLAFLRFVVYEEDMFSDPNFLAHATYPIKA
                                                                                                                                                                                                                                                                                                                                                                        PNSEDPLPGOLKKO----LVLRIISGQQLPKPRDSMIGDRGEIIDPFVEVEIIGLPVDCS 797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LSDLVYYCKPTSKTKDNLENPDFREIRSFVETKADSIIRQKPVDLLKYNQKGLTRVYPKG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ESGEDAG-----ASRRN----GRLVVGSFSRRKKKGSKL-------KKAASVEEG
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RA Harris N.L., Harvey D., Heiman T.J., Wei M.-H., Ibegwam C.,
RA Harris N.L., Harvey D., Heiman T.J., Wei M.-H., Ibegwam C.,
RA Jalali M., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ketchum K.A.,
RA Jalali M., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ketchum K.A.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
RA Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
RA Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
RA Heison D.R., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA McHaon D.R., Nelson K.A., Nixon K., Musskern D.R., Pacleb J.M.,
RA Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Resse M.G.,
RA Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
Spier E., Siden-Klamos I., Simpson M., Skupski M.P., Smith T.,
RA Syirskas R., Tector C., Turner R., Venter E., Wang A.H., Wang X.,
RA Williams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao Q.A.,
RA Ye J., Yeh R.-F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng L.,
RA Zheng X.H., Zhong F.N., Rubin G.M., Venter J.C.;
RA Glbbs R.A., Myers E.W., Rubin G.M., Venter J.C.;
Science 287:2185-2195(2000).
CC DIACYTALYCEROI. (JAG) AND INOSTWOI. 1.4.5-TRISPHOSPHAMFE (1P3) IS
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Eukaryota; Metazoa; Arthropoda; Mandibulata; Pancrustacea; Hexapoda;
Insecta; Pterygota; Neoptera; Endopterygota; Diptera; Brachycera;
Muscomorpha; Ephydroidea; Drosophilidae; Drosophila.
NCBI_TaxID-7227;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Shortridge R.D., Yoon J., Lending C.R., Bloomquist B
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=91286274; PubMed=2061323;
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This SWISS-PROT entry is copyright. It is produced through a collaboration
                                                                                                                        -!- SIMILARITY: CONTAINS 1 C2 DOMAIN.
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                                                                                                                                                         SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
                                                                                                                                                                                                                                                                                                                                                                         HERE); ARE PRODUCED BY ALTERNATIVE SPLICING.
TISSUE SPECIFICITY: NEURONAL CELL BODIES OF THE OPTIC LOBE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-
bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DIACYLGIXCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) IS MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ALTERNATIVE PRODUCTS: 2 ISOFORMS; CLASS I AND CLASS II (SHOWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              bisphosphate + H(2)0 = D-myo-inositol
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                                                                                                                                                                                                                                                                                                                       L BRAIN,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pfam; PF00387; PI-PLC-Y; 1.
Pfam; PF00388; PI-PLC-X; 1.
PRINTS; PR00390; PPHHLIPASEC.
PT0Dom; PD001202; PI_PLC_Y; 1
SMART; SM00339; C2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SMART; SM00239; C2; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACT_SITE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FlyBase; FBgn0004611; Plc21C
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
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                                                                                                                                                                                                                                           178
                                                                                                                                                                                                                                                                                                                               140 RTWVTGLRYLMAGISDEDSLARRORTRDQWLKQTFD----EADKNGDGSLSIGEVLQLLH 195
                                                                                                                      290
                                                                                                                                                                               230
                                                                                                                                                                                                           244 M--LTYSNHKDHLDAASLQRFLQVEQK-----MAGVTLESCQDIIEQFEPCPENKSK
                                                                                                                                                                                                                                                                      196 K-----LNV-NLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMSTRRDLYLL
                                                                                                                                                                                                                                                                                                    126
                                                                                                                                                                                                                                                                                                                                                                                                                                                    44 AMQEGMQMVK------LRGGSKGLVRFYYLDEHRSCIRWRPSRKNEKAKISIDS 91
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                                                                                                                                                                                                                                                                                                  QLWTDGL-----IKLAYSLAQLNGSAIMFLQKAHTKLCLQVDKS--GRIPVKNIIKLFA 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P10688;
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                                                                                                                                                                                                                                         QNKEDRKRVEKALDVTGLPSGKVDSI-----SVSKFQFEDFYNLYKYLTQRSEVERL
                                                                                                                                                                                                                                                                                                                                                             IRDVRTGQYAKRPKDNKLRQIVTLGPQDTLEEK-TVTVCHGSDFVNMTFVNFCCTRRDIA 125
                                                                                                                                                                                                                                                                                                                                                                                         IQEVSEGRQS-----EVFQRYPDGSFDPNCCFSIYHGSHRESLDLVS---TSSEVA 139
SFENHCNPRQQAKIANYCREIFGDMLLDKPLDSHPLEPNMDLPPPAMLRRKIIIKNKKKH
                                                                                      MYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVIL 413
                                                                                                                    GQLSLDGFLRYLMGDDNPIMAPSKLDLCDDMDQPMSHYFINSSHNTYLTGHQLTGKSSVE
                                                                                                                                                                             FDSIVGNSKRKCMSIAQLVEFLNKTQRDPRLNEILYPYANPARAKELIQQYEPNKFNAQK
                              SIENHCSVIQQKKMAQYLTDILGDKL---DLSSVSSEDATTLPSPQMLKGKILVKGK---
                                                          IYRQCLLAGCRCVELDFWNGRTEEPVIVHGYTFVPEIFAKDVLEAIAESAFKTSEYPVIL 409
                                                                                                                                                 GLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
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IPR001192; PI_PLC.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     190; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No. 9.7e-39;
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BY SIMILARITY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN X.
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                                                                                                           01-JUL-1989 (Rel. 11, Created)
01-JUL-1989 (Rel. 11, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase beta 1
(EC 3.1.4.11) (PLC-beta-1) (Phospholipase C-beta-1) (PLC-I) (PLC-154).
SEQUENCE FROM N.A.
                                                Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                 NCBI_TaxID=10116;
                                                                                        Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                  1134 AQKLEEIRSK--SPMFSAGKPLL 1154
                                                                                                                                                                                                                                        IB1_RAT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  708 LLKPEFMRRSDRRLDPFAESTVDGIIAGTVSTTVLSGQFLTDKR------ANTFVE
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                                                                                                                                                                                                                                                                                                                                TSQYRELQEKYHEAIYSAAEKVL 1138
                                                                                                                                                                                                                                                                                                                                                                                                                                  APKGPGAWROGPGGSGSMSSDSSSPDSPGIPERSPRWPE----GACRQPGALQGEMSALF 1133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KEKIKIAGQKSSPLEGKKP-----KFAITNKLVKRLSNKSLNC--LSPHSEPG--VE 1068
                                                                                                                                                                                                                                                                                                                                                                                               IPACP--LDLGDSSEESAAADAGEDLAGGSSSLDGRTQESRLRSACRE------Y 1115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QHQHSLDQSVSTSIRQVESSQFDVDLVLAEPLEKILDHKSVKEKRLEMEKKLESLRKKHD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ----CAGVNTGGLQRERPPSPGPASRQAAIRQQPRARADSLGAPCCGLDPHAIPGRSRE 1077
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VVPPGPGPAPEAPAQEGPGSGSPRGKAPAAVAEKSPVRVRPPRVLDGPGPAGMA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPELVLGTRDTGSKGVADD 958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LIGHRVLPVIGLCPGYRHV--------NLRSEVGQPIALASLFLCVVVKDY 857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FIGORTLAFSSMMPGYRHVYLEGMEEASIFVHVAVSDISGKVKQALGLKGLFL----RGP 898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VEIIGLPVDCSRE--QTRVVDDNGFNPTW-EETLVF-MVHMPEIALVRFLVWDHDPIGRD 842
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTGTGSAAGTAGHAPPLQQIRQSSKDSTGSSDSDSSSEDESLPNTTPNLPSGNEPPPEKA
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                                                                                                                                                                                                                                        STANDARD;
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                                           Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                    1216 AA
                                           Muridae; Murinae; Rattus
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PROSITE; PS50007; PIPLC_X_DOMAIN; 1.
PROSITE; PS50008; PIPLC_Y_DOMAIN; 1.
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SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
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ProDom; PD001202; PI_PLC_Y; 1.
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-I- SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS
OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.

-I- SIMILARITY: CONTAINS 1 C2 DOMAIN.
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Suh P.-G., Ryu S.H., Moon K.H., Suh H.W., Rhee S.G.;
"Cloning and sequence of multiple forms of phospholipase C.";
                                44 AMQEGMQMVK-----CIRWRP 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nterPro;
21 SLKKGTKFVKWDDDSTIVTPIILRTDPQGFF-FYWTDQNKETELLDLSLVKDARCGKHAK 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Cloning, sequencing, purification, and Gq-dependent activation of phospholipase C-beta 3.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACTIVITY, TISSUE SPECIFICITY, AND SUBCELLULAR LOCATION MEDLINE=93203266; PubMed-8454637;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACTIVITY,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cell 54:161-169(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C ENZYMES.

CAPIALYTIC ACTIVITY: 1-phosphatidy1-1D-myo-inosito1 4,5-bisphosphate + H(2)0 = D-myo-inosito1 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MISCELLANEOUS: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-BETA 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE SPECIFICITY: Highest expression in brain. Also expressed parotid gland, liver, uterus, lung, heart, adrenal gland and ovary. Not detected in spleen, pancreas, intestine, thymus or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SUBCELLULAR LOCATION: Cytosolic and particulate fractions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Biol. Chem. 268:6654-6661(1993).
FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES DIACYIGIZCEROL (DAG) AND INOSITOL 1.4,5-TRISPHOSPHATE (IP3)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COFACTOR: Calcium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          D.-Y., Lee H.-H., Park D., Lee C.-W., Lee K.-H., Yoo O.J.,
                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                          ; IPR000008; C2.
; IPR001192; PI_PLC.
; IPR000909; PI_PLC_Xdo
; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                      Lipid
                                                                         Conservative
                                                                                                                                        AΑ;
                                                                                                                                                                                                                                                   degradation;
                                                                                       14.8%;
                                                                                                                                       138344 MW;
                                                                      153;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             _Xdom.
                                                                                                                                                                    C2 DOMAIN.
BY SIMILARITY.
BY SIMILARITY.
                                                                                   Score 945; DB 1;
Pred. No. 9.4e-39;
                                                                                                                                PHOSPHORYLATION (BY PKC). W; 92F23691781F788E CRC64;
                                                                                                                                                                                                                    DOMAIN Y.
                                                                                                                                                                                                                                   DOMAIN X.
                                                                                                                                                                                                                                             Transducer; Phosphorylation; Calcium
                                                                      Mismatches
                                                                                                   Length 1216;
                                                               Indels 274; Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       336 TACQLAGNSSVEMYRQVLLSGCRCVELDCWKGRTAEEEPVITHGFTMTTEISFKEVIEAI 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              163
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     79
872
                                       964 PGPAPEAP-AQEGPGSGSPRGKAPA 987
                                                                                                                            904 DSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPELVLGTRDTGSKGVADDVVPPG 963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AKEWTNEV----FSLATNLLAQNMSRDAFLEKAYTKL-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APKDPKLRELLD-----VGNIGHLEQRMITVVYGPD----LVNISH----LNLVAFQEEV 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SRKNEKAKISIDSIQEVSEGRQSEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEV 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ARTWYTGLRYLMAGISDEDSLARRORTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLN 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KLS-----EQASNTYSDSSSVFEPSSPGAGEADTESDDDDDDDDDDD-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNKKRVENTAKR 515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NKYAFIKNEYPVILSIENHC-SVIQQKKMAQYLTDIIGDKL---DLSSVSSEDATTLPSP 455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDG--PDGEPIVHHGYTLTSKILFKDVIETI 399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LNNLCPRPEIDNIFSEFGAKSKPYLTVDQMMDFINLKQRDPRLNEILYPPLKQEQVQVLI 275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LTYSNHKDHLD-----AASLQRFLQVEQKMAGVTL------ESCQDII 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VTPEGRIPLKNIYRLF-SADRKRVETAL---EACS---LPSSRNDSIPQEDFTPDVYRVF 215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AECAFKTSPFPILLSFENHVDSPKQQAKMAEYCRLIFGDALLMEPLEKYPLESGVPLPSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EKYEPNSSLAKKGQMSVDGFMRYLSGEENGVVSPEKLDLNEDMSQPLSHYFINSSHNTYL 335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYL 341
                                                                                                                                                                                                                                                                                                      NPTW-EETLVF-MVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEGME
                                                                                                                                                                                                                                                                                                                                                VANTLSVKIISGO------FLSDKK--VGTYVEVDMFGLPVDTRRKAFKTKTSQGNAV 723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DIE--MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQP 693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVATH 635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGS 575
                                                                                                                                                                                                                                                                                                                                                                                                                                         FWNAGCQMVALNFQTVDLAMQINMGMYEYNGKSGYRLKPEFMRRPDKHFDPFTEGIVDGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FWNAGCOMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQ--GVFNPNSEDPLPGQ 751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SFETSKKRNKSFEMSSFVETKGLEQLTKSPVEFVEYNKMQLSRIYPKGTRVDSSNYMPQL
                                                                                                                                                                        NQPLMLPAVFVYIEVKDYVPDTYADVIEALSNPIRYVNLMEQRAKQLAALTLED-----
                                                                                                                                                                                                                  E----ASIFVHVAVSD-----ISGKVK-----QALGLKGLFLRGPKPGSL 903
                                                                                                                                                                                                                                                               NPVWEEEPIVFKKVVLPSLACLRIAAYEE----GGKFIGHRILPVQAIRPGYHYICLRNER 780
                                                                                                                                                                                                                                                                                                                                                                                             LKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSRE--QTRVVDDNGF
PKPPSQAPHSQPAPGS----VKAPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -----CKKSSMDEGTAGSEAM-----ATEE-----MSNLVNYIQPVKFE 553
                                                                                      ----EEEVKKEADPGETSSEAPSE----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ----KSHKSSEGSGKK 480
                                                                                             TRTTPAENGVNHTATLA 871
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PIB4\_BOVIN ID PIB4\_BOVIN RESULT 14

STANDARD;

PRT;

1023 AA.

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007722; 007721; 007723; 007724;
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-UN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase beta 4
(EC 3.1.4.11) (PLC-beta-4) (Phospholipase C-beta-4) (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDIINE-93317620; PubMed-8327481; Ferreira P.A., Shortridge R.D., Pak W.L.; and Distinctive subtypes of bovine phospholipase C that have preferential expression in the retina and high homology to the norph gene product of Drosophila.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way use by not this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bovidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE-Retina
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                           Pfam; PF00168; C2; 1.
Pfam; PF00387; PI-PLC-Y; 1.
Pfam; PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; L13936;
EMBL; L13935;
ACT_SITE
ACT_SITE
VARSPLIC
                                                                                                                                                                                               SMART; SM00239; C2; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                          InterPro; IPR001192; PI_PLC.
InterPro; IPR000909; PI_PLC_Xd
InterPro; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                              PRINTS; PR00390; PHPHLIPASEC. ProDom; PD001202; PI_PLC_Y; 1
                                                                                                                                                                                                                                                                                                                                                                              InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                              EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; L13937;
                                                                                                                                                  PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50007; PIPLC_X_DOMAIN;
PROSITE; PS50008; PIPLC_Y_DOMAIN;
                                                                                                                  Alternative
                                                                                                                                                PROSITE; PS50008;
                                                DOMAIN
                                                                   DOMAIN
                                                                                                   NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES DIACYLGIZGEROL (DAG) AND INOSITOL 1,4,5-TRISHOSPHATE (IP3) IS MEDIATED BY ACTIVATED PHOSPHATIDIZINOSITOL-SPECIFIC PHOSPHOLIPASE C ENZYMES. THIS FORM HAS A ROLE IN RETINA SIGNAL TRANSDUCTION. CATALYTIC ACTIVITY: 1-phosphatidy1-1D-myo-inositol 4,5-trisphosphate + H(2)0 - D-myo-inositol 1,4,5-trisphosphate +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ALTERNATIVE PRODUCTS: AT LEAST 4 ISOFORMS; 1A, 1B (SHOWN HERE), 2A AND 2B; ARE PRODUCED BY ALTERNATIVE SPLICING.

AND 2B; ARE PRODUCED BY ALTERNATIVE SPLICING.

TISSUE SPECIFICITY: PREFERENTIALLY EXPRESSED IN THE RETINA.

SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN FOUR DIFFERENT FORMS OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.

SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COFACTOR: Calcium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          diacylglycerol
                                                                                                                                                                                                                                                                                                                                                                                                P10688;
                                                                                                                                                                                                                                                                                                                                                                                                              L13938;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                  IPR000008; C2.
                                                                                                                                Lipid degradation; Transducer; Phosphorylation; Calcium;
                                                                                                                  splicing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAA30699.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                 LOAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                AAC37304.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                   AAA30701.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                 AAA30700.1; -.
                                              DOMAIN Y.
C2 DOMATN
                                                                                                                                                                                                                                                                                                                                                    xdom.
     C2 DOMAIN.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
MISSING (IN ISOFORM 2A AND ISOFORM 2B).
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RESULT
PIB1_H
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                            Homo sapiens (Human).
                                                                                                                                                                                                                            PIB1_HUMAN STANDARD; PI
Q9NQ66; Q9NQ65; Q9NQH9; Q9NTH4;
                                                       16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase beta 1
(EC 3.1.4.11) (PLC-beta-1) (Phospholipase C-beta-1) (PLC-1) (PLC-
                                                                                                                                                                                                                                                                                                                                                                    682 ALSDPKKFL-----SITEKRADQMRAMGIETSDI----ADVPSDTSKNDKKG 724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  625 DN----NKLIGQRILPLDGLQAGYRHISLRNEGNKPLSLPTIFCNIVLKTYVPDGFGDIVD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 566 -IGTYVEVDMYGLÞTDTIRKEFRTRMYMNNGLNÞVYNEESFVFRKVILÞDLAVLRIAVYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 722 ANGGCGYVLKPGCMCQ--GVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGE 779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 400 YKYYGA----TTNIHPYLSTMINYAQPYKFQGFHVAEERNIHYNMSSFNESYGLGYLKT 454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VARSPLIC
VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 544 GKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQDSPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               282 RPLPSPNDLKRKILIKKQTTETEVEKKQLEALKSMMEAGESAAPVNMLEDDNEEEIESAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    102
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             224 FEEFCAFYKMMSTRRDLYLLMLTYSNHK-DHLDAASLQRFLQVEQKMAGVT-----L 274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                42 YEKFYELTQKICPRTDIEDLFKKINGDKTDYLTVDQLVSFLNEHQRDPRLNEILFPFYDA 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ьоса.
                                                                                                                                                                                                                                                                                                                                                                                                                   ALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRG 939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HDPIGRDFIGQRTLAFSSMMPGYRHVYL--EGMEEAS---IFVHVA----VSDISGKVKQ 886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IIDPFVEVEIIGLPVDCSREQ--TRVVDDNGFNPTW-EETLVF-MVHMPEIALVRFLVWD 835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  YNGSCGYLLKPDFMRRPDRTFDPFSETPVDGVIAATCSVQVISGQ-----FLSDKK- 565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HAIEFVNYNKROMSRIYPKGGRVDSSNYMPQIFWNSGCOMVSLNYQTPDLAMQLNQGKFE 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GOSRGATRQKKTMKLSRALSDLVKYTKSVATHDIEM--EAASSWQVSSFSETKAHQILQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SADEIDDDCKL---LNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTLSPS 543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----KASDDLE-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QEEEAHPEYKYGNELSADDLGHKEAIANSVK-----------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTLPSPQMLKGKILVK-------GKKL-------PANISEDAEEGEVSDED 486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KDVIQAIKETAFVTSEYPVILSFENHCSKYQQYKMSKYCEDLFGDLLLKQALESHPLEPG 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGD---KLDLSSVSSEDA 449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SSHNTYLTGRQFGGKSSVEMYRQVLLAGCRCVELDCWDGKGEDQEPIITHGKANCTDILF 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWD--GPDGEPIVHHGYTLTSKILF 392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KRAMQIIEMYEPDEDLKKQGLISSDGFCRYLMSDENAPVFLDRLELYQEMDHPLAHYFIS 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFIT 334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1023
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       383
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                                                                                                                                                                                                    PRT; 1216 AA.
4; 060325; Q9H4H2; Q9BQW2; Q9UJP6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ¥.
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MISSING (IN ISOFORM 2A).
MW; 416D700C2095748C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 937.5;
Pred. No. 1.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ------HENSKKG-----LVTVE--DEQAWMAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .8e-38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB_1; Length 1023;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       258;
                                                                 (PLC-I) (PLC-154).
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       CCCCCCCRTTTR RARRED RAR
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                                                                                                                                                                                                                                                                                Nomura N., Ohara O.;
                                                                                                                                                                                                                                                                                                                                                            TISSUE=Brain;
                                                                                                                                                                                                                                                                                                                       MEDLINE=98290545; PubMed=9628581;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ISSUE-Testis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE-Bra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. (ISOFORM A).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Caricasole A.,
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diacylglycerol
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RADELINE LINE PLANCE IN THE PROPERTY OF STATE AND ACTION OF A STATE OF A STAT
                                                                                                                                                  "Prediction of the coding sequences of unidentified human genes. IX.
The complete sequences of 100 new cDNA clones from brain which can code for large proteins in vitro.";
DNA Res. 5:31-39(1998).
-1- FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES DIACYLCIPCEROL (DAG) AND INOSITOL 1.4.5-TRISPHOSPHATE (IP3) IS MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Koehrer K., Beyer A., Mewes H.-W., Gassenhuber J., Wiems
Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE OF 261-1216 FROM N.A. (ISOFORM B).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "The DNA sequence and comparative analysis of human chromosome 20."; nature 414:865-871(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 519-1216 FROM N.A. (ISOFORM A).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A. MEDLINE=21638749; PubMed=11780052;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Biochim. Biophys. Acta 1484:175-182(2000).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           hybridisation of human gene of phosphoinositide specific phospholipase C beta 1.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=20225428; PubMed=10760467;
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C ENTYMES.

CATALYTIC ACTIVITY: 1-phosphatidy1-1D-myo-inositol 4,5-bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     K.-I., Miyajima N., Tanaka A., Kotani H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Wiemann S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo
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                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PR00390; PHPHLIPASEC.
Probom; PD001202; PI_PLC_Y; 1.
SMART; SM00239; C2; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
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PROSITE; PS50007; PIFIC_X_DOMAIN; 1.
PROSITE; PS50008; PIFIC_X_DOMAIN; 1.
Hydrolase; Lipid degradation; Transd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        modified
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ptam;
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                                                                                                                                                                                                                          CONFLICT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HSSP;
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                                                                                                                                                                                                                                                                                                                                                                          Alternative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro;
                                                    SEQUENCE
                                                                                                                                                                                                  CONFLICT
                                                                                                                                                                                                                                                                                                                                    DOMAIN
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                                                                                                                                                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COFACTOR: Calcium.

ALTERNATIVE PRODUCTS: 2 ISOFORMS; A (SHOWN HERE) AND B; ARE PRODUCED BY ALTERNATIVE SPLICING.

MISCELLANBOUS: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-BETA 1

MEDIATED BY TWO G-PROTEIN ALPHA SUBUNITS, ALPHA-Q AND ALPHA-1

SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY. SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AJ278313; CAB98142.1; -...
AJ278314; CAB98143.1; -...
AY004175; AAF86613.1; -...
AL031683; CAC16181.1; -...
AL031683; CAC34366.1; -...
AL050315; CAB56498.1; -...
AL049632; CAB46663.1; -...
AL137267; CAB70666.1; -...
AL137267; CAB70666.1; -...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PF00388;
  297;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              non-profit institutions as long as its content and this statement is not removed. Usage by an regnitres a linear responses.
            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IPR000008; C2.
IPR001192; PI_PLC.
IPR000909; PI_PLC_Xdom.
IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                          splicing
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203
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  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PI-PLC-Y; 3. PI-PLC-X; 2.
                                                    A
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                                                                                                                                                                                                                                                                                                         467
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                                         PGPGPAPEAPAQEGPGSGSPRGKAPA
                                                                      KKEADPGETPSEAPSEA ----
                                                                                           SLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPELVLGTRDTGSKGVADDVVP 961
                                                                                                                       ERNOPLTLPAVFVYIEVKDYVPDTYADVIEALSNPIRYVNLMEQRAKQLAALTLEDEEEV
                                                                                                                                                ---EGMEEASIFVHVAVSD-----ISGKVK-----QALGLKGLFLRGPKPG
                                                                                                                                                                            AVNPVWEEEPIVFKKVVLPTLACLRIAVYEE----GGKFIGHRILPVQAIRPGYHYICLRN
                                                                                                                                                                                                                               GIVANTLSVKIISGQ------FLSDKK--VGTYVEVDMFGLPVDTRRKAFKTKTSQGN
                                                                                                                                                                                                                                                       GQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSRE--QTRVVDDN
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                                                                      -GVNHT----
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901

455 395 399 335 341 275 283 215

Search completed: March 28, 2003, 13:49:37 Job time: 43 secs

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Result
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Maximum DB seq length: 2000000000
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    Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.
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    PIR_73:*
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	C; Keywo F; 302-4 F; 486-6	A; Map p	A; Gene: A; Cross	A;Cross-ref C;Genetics:	A; Molecule 1 A; Residues:	A; Acces A; Statu	A; Refer	Hum. Mol.	R; Kohno	C;Date:	phospho	RESULT		44	43	42	4 4 1 0	39	38	36 37	35	34	ω u	- C	ى ر د	۵ ٥	
<b>K</b> 5+Ch	ogmain i nomolooy C:Reywords: phosphoric diester hydrolase C:Reywords: 1-phosphatidylinositol F;302-444/Domain: 1-phosphatidylinositol	A; Map position: 2q33-2q33 C; Superfamily: human phos	A;Gene: GDB:PLCE; PLC-L A;Cross-references: GDB:699207;	-referen	A; Molecule type: mRNA A; Residues: 1-997 < RE	A; Accession: I54390 A; Status: preliminary;	A; Reference number:	Hum. Mol. Genet. 4, 667-674,	R;Kohno, T.; Otsuka,	C; Species: nome saprens (man) C;Date: 10-Sep-1999 #sequence_revision	phosphoinositide-specific phospholipase	ם		604.5	623	649	677	832.5	852	857 857	867.5	870.5	872	088	р р л	007 7	
	sphoric n: 1-phc n: 1-phc	2q33-2q human ph	E; PLC-I	ces: GB:	ype: mRNA 1-997 <res></res>	ry;	ber: 154	Genet. 4, 667-674, 1995	-	1999 #se	e-specif			9.5 5	9.8	10.2	10.6			13.6		13.6		1 L 20 0	110.0	1 2 0	
٠,	diester sphatic sphatic	<sub>[33</sub> losphoir	699207	D42108;		translated	390; MU	-674, 1	T.; Takano,	quence_	ic phos			551			1099			875				1244			
9	c hy dyli dyli	1051	7; 0	NH		ted	JID:	.995	ō -	rev	pho			20 13													
score 1524 5: DB 1:	noric diester hydrolase 1-phosphatidylinositol-4,5-bisphosphate 1-phosphatidylinositol-4,5-bisphosphate	A; Map position: 2q33-2q33 C; Superfamily: human phosphoinositide-specific phospholipase	OMIM: 600597	A;Cross-references: GB:D42108; NID:g780121; PIDN:BAA0/688.1; C;Genetics:		from GB/EMBL/DDBJ	154390; MUID:95359973; PMID:7633416	3	H.; Yamamoto, T.; Hamaç	10-sep-1999	C (EC 3.1.4)		ALIGNMENTS	T06777	T06420	T07424	T18257	T21581	T42440	\$55075 \$66672	127002 127022	\$51092	A45493	T24299	\$68351	066970	
Length 997:	te phosphodiesterase domain X te phosphodiesterase domain Y	ipase C; 1-phosphatidylinosito		88.1; PID:9/80122			90.00	gene at	Hamaguchi, M.; Terada, M.; Yokota,	<pre>#text_change 10-Sep-1999</pre>	epsilon - human			phosphoinositide-s	phosphoinositide-s	phosphoinositide-s	phospholipase C -	hypothetical prote	phospholipase C ho	r-phosphatidylinosit	phospholipase C (E	probable phosphoin	phospholipase C-be	hypothetical prote	phospholipase C. i	hypothetical prote	

	370	THVSF	NAT.	INASHNTYLIEDQFRGPADINGYIRALKMGCRSVELDVSDGSDNEPILCNRNNMTTHVSF 370	DGSDNE	ELDVS	GCRSVI	IRALKM	INGY	RGPAL	LIEDQF	SHNTY		311	뮹	
	392	SKILE	TLT	ITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILF 392	DGPDGE	EVDCW	GCRCVI	AWVLQA	YMOV	1SQSF	ГАСТОТ	YTNHE		333	Qy	
	310	LSHYY	TOP	TEDICLDIIRRYELSEEGRQKGFLAIDGFTQYLLSSECDIFDPEQKKVAQDMTQPLSHYY 310	IFDPEQ	SSECD	roylls	LAIDGE	OKGE	EEGF	IRRYEL	DICLDI	TED	251	Db	
	332	LSHYF	HQP	TLESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYF 332	IFNPEH	SPAGD	INYTRO	LGIDGE	SKGL	PENK	IEQFEP	SCQDI	TLE	273	Qy	
	250	GVTHI	AEQ	191 KSKEKLTTRVTEEEFCEAFCELCTRPEVYFLLVQISKNKEYLDANDLMLFLEAEQCVTHI 250	EYLDAN	ISKNK	FLLVQ	TRPEVY	CELC	CEAF	RVTEEE	EKLTT	KSK	191	Db	
	272	)KMAGV	VEQ	TDDHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGV 272	DHLDAA	SNHK	LLMLTS	TRRDLY	KMMS'	CAFY	-LGFEE	HQGT-	TDD	215	Qy	
	190	FKEIQ	RLK	131 LDFMEGNQNTPRFMWLKTVFEAADVDGNGIMLEDTSVELIKQLNPTLKEAKIRLKFKEIQ 190	IKQLNP	SVEL	[MLED]	DVDGNG	FEAA	EKTV	NTPREM	MEGNQI	LDF-	131	В	
	214	FREAD	MQX.	157 -DSLARRQRT-RDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREAD 214	LHKLNV	TOTA	SLSIGE	DKNGDG	FDEA	ILKQT	RT-RDQI	LARRQI	-DS	157	Qy	
	130	RSKQP	SAT	NTETFTNNGLADQICEDCAFSILHGENYESLDLVANSADVANIWVSGLRYLVSRSKQP 130	ADVANI	SNAA	ESLDI	ILHGEN	CAFS	ICED	NGLAD	TFTN-	NTE	73	DЪ	
	156	GISDE	- E	QSEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDE 156	SEVART	VSTS	RESLDI	IYHGSHI	CCFS	PN	DGSFD	VFQRYI	QSE	100	Qy	
	72	IRLGK	IKE	13 CISFMOAGCELKKVRPNSRIYNRFFTLDTDLQALRWEPSKKDLEKAKLDISAIKEIRLGK 72	KKDLEK	WEPSI	DLQALE	FTLDT	IYNRI	PNSR	ELKKYI	FMQAGO	CIS	13	Db	
	99	VSEGR	-:- EQE	CMGAMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRKN-EKAKISIDSIQEVSEGR 99	RKN-EK	WRPSI	RSCIF	YYLDER	GLVRI	GGSK	QMVKLI	AMQEGN	CMG	41	Qy	
20;	gg	7; Ga	17	Hest Local Similarity 30.26; Fied. NO. 1.98-70; Indels 177; Gaps Matches 348; Conservative 158; Mismatches 279; Indels 177; Gaps	279;	les :	smatch	B; Mis	158	tive	nserva	8; Co	34	tches	Ма	
		7;	99	Length 997;	DB 1;	5;	1524.	Score 1524.5; DB 1;	23.98;	23.			atch	Query Match	ğ	

Query Match  Best Local Similarity  Matches 349; Conservat	Molècule type: pro Residues: 172-191; Superfamily: human main Y homology 401-543/Domain: 1- 585-705/Domain: 1-	A;Accession: S62358 A;Molècule type: mRNA A;Residues: 1-1096 (KAN1)> A;Cross-references: EMBL:D45 A;Accession: S69328	R;Kanėmatsu, T.; Misumi, Y.; Watanabe, Y.; Oza Biochėm. J. 313, 319-325, 1996 A;Title: A new inosito-1 1,4,5-trisphosphate bi A;Reference number: \$62358. MITD-96132642. pur	S62358 S62358 Inositol 1,4,5-trisphosphate-binding protein, Naliternate names: phospholipase C delta 1 ho C;Species: Rattus norvegicus (Norway rat) C;Date: 10-Sep-1999 #sequence_revision 10-Sep C;Accession: S62358; S63328	Db 855 YL 856	942 EL 	QY 899 KPGSLD ::  Db 796 LREAIDMRENMQNAIV		676	7 <b>4</b> 9 618		Qy 633 ATHDIEMEAASSW(           : :       Db 498 QYRDFELSMKSQNYWI	573 470		Qy 453 PSPQMLKGKILVKGKK    :    :    Db 430 PSPEKLKRMIIVKGKI	
23.8%; Score 1517; DB 1; Length 1096; 36.1%; Pred. No. 5.2e-70; tive 161; Mismatches 278; Indels 180; Gaps 22;	tein 228-242;1024-1034 <kan2> 288-242;1024-1034 <kan2> phosphoinositide-specific phospholipase C; 1-phosphatidylinositol-4 phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X hom phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain Y hom</kan2></kan2>	11838	.; Watanabe, Y.; Ozaki, S.; Koga, T.; Iwanaga, S.; Ikehara, Y. 1996 1,5-trisphosphate binding protein similar to phospholipase c-d	te-binding protein, 130K - rat lipase C delta 1 homolog 13 (Norway rat) 10-Sep-1999 #text_change 16-Jun-2000			KPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFP 941 ::	MEEASIEVHVAVSDISGKVKQALGLKGLFLR	FNPWMEETLVFMVHMPETALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEG 865    ::      ::  :  :  :  :  :  :  :	PGQLKKQLVLRIISGQQLFKPRDSMLGDRGEIIDPFVEVEIIGLFVDCSRBQTRVVDDNG 808	PQPFWNAGCOMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNSEDPL 748	ATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYN 690         ::	SFSRRKKRGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSV 632	ARRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLV 572	PSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENT 512    :    :      :        :   PSPEKLKRMIIVKGKKLPSDPDVLEGEVTDED	KDVIETINKYAFIKNEYPVILSIENHCSVIQOKKMAQYLTDILGDKLDLSSVSSEDATTL 452 :             :       :

	941 PEL-VLGT 947 	Db Qy
940 952	98 PKPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGF	B 4
897 893	66 MEBASIFYHVAVSDISGKVKQALGLKGLFLR	Db Qy
865 833	08 GFNTWRETLVFMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEG	Db
807 773	LPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDN	D 4d
747 715	90 NPOPTWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYYLKPGCMCQGYFNPNSEDP	40 Ad
689 655	32 VATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNY 	р <sub>Q</sub> у
631 595	72 VVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKS     ;   ;	рь
571 568	12 TAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRL   :	dd dy
511 560	52 LPSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVEN     :    :       :   28 LPSPEKLKHMIIVKGKKLPSESDLLEGEVTDED	dg dg
451 527	KDYIETIKKYAFIKNEYPVILSIENHCSYIQQKKMAQYLTDILGDKLDLSS-VSSEDATT	⊋ ₽ Q
392 469	33 ITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILF	o da
332 409	TLESCODIIEOFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHYHODMTQPLSHYF   :       :   :	Дb
272 349	215 TDDHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGV	Db Oy
21 <b>4</b> 289	-DSLARRC	Qy
156 229	100 QSEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDE :    : :    :	Qy
99 171	41 CMGAMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRKN-EKAKISIDSIQEVSEGR 	ОУ

RESULT 3
S14113
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) delta-2 - bov N;Alternate names: phosphoinositidase C; phospholipase C-delta-2; triphosphoinositide

	447 EDATTLESPOMLKOKILVEGKKLDANISEDAEEGEVSUSADELDUCKLINGDASINK 300 447 EDATTLESPOMLKOKILVEGKKLDANISEDAEEGEVSUSADELDUCKLINGDASINK 300 411 (1)   1   1   1   1   1   1   1   1   1	0 <i>y</i> 0 <i>y</i> 0 <i>y</i>
	QAEGERASDIALELIDA DE SEGGRANTI EDITORIO DE LA CONTROL DE L	0 Db
	147 RYLMAGISDEDSLARRQRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRV 206 :  : ::	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	LOCAL Similarity 39.2%; Pred. No. 3e-67; 25 342; Conservative 133; Mismatches 263; 29 FLSANILPVVERCMGAMQEGMQMVKLRGGSKGLVRFYYLDEHR8; 29 FLYANILPVVERCMGAMQEGMQMVKLRGGSKGLVRFYYLDEHR8; 20 1	Db
triphosph 1; 1-phos peat homol ase; signa main X hom	mental source: brain tt: The products of hydrolysis, diacylglycerol and D-myo-inositol 1,4,5 inamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase delta amily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase delta idesterase domain Y homology; calmodulin repeat homology; pleckstrin rej idesterase domain Y hand; lipid degradation; phosphoric diester hydroli yDomain: pleckstrin repeat homology <plk> 6/Domain: calmodulin repeat homology <plk> 12/Domain: calmodulin repeat homology <ef1> 2/Domain: calmodulin repeat homology <ef2> 3/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase double of the product of the product of the phosphodiesterase double of the phosphatidylinositol-4,5-bisphosphate phosphodiesterase double of the phosphatidylinositol-4,5-bisphosphate phosphodiesterase double of the phosphate phosph</ef2></ef1></plk></plk>	A; Res A; Res C; Com C; Sup phosp C; Key F; 134 F; 137 F; 292 F; 292 F; 611
tion and	,Accession: \$14113 ,Rocius preliminary ,Status: preliminary ,Molecule type: mRNA ,Rosidues: 1-764 <mel> ,Experimental source: brain ,Experimental source: brain ,M.; Parker, P. ,Meldrum, E.; Katan, M.; Parker, P. ,Meldrum, E.; Katan, M.; Parker, P. ,Tittle: A novel inositol-phospholipid-specific phospholipase C. Rapid purificat ,Reference number: \$04944 ,Rocession: \$04944 ,Rocession: \$04944 ,Rocession: \$04944</mel>	A; Acco A; Moll A; Moll A; Res A; Exp R; Mel Eur A; Tit A; Ref A; Ref A; Acco
ise C-del	C;Species: Bos primigenius taurus (cattle) C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 02-Jun-2000 C;Accession: S14113; S04944 R;Meldrum, E.; Krīz, R.W.; Totty, N.; Parker, P.J. Eur. J. Biochem. 196, 159-165, 1991 A;Title: A second gene product of the inositol-phospholipid-specific phospholipase A;Reference number: S14113; MUID:91160548; PMID:1848183	C; Spec C; Date C; Acco R; Melo Eur. A; Tit: A; Refi

B	478	478KKKKPKAI	94
VΩ	627	THD:	82
망	495	495 YYLKAVIFYSFTHSREHYHFYETSSFSETKAKSLIKEAGDEFVQHNAWQLSRVYPSGL 552	52
νQ	683	683 RVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVF 740	40
Db	553	553 RTDSSNYNPQEFWNAGCQMVAMNWQTAGLEMDLCDGLFRQNAGCGYVLKPDFLRDAQSSF 612	12
Qy	741	741 NPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVD 795	95
Дb	613	613 HPERPISPFKAQTLIIQEPWLQVISGQQLPKVDNTKEQSIVDPLVRVEIFGVRPD 667	67
Qy	796	796 CSREQTRVVDDNGFNPTWEETLVFMVHNPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSM 854	54
В	899	668 TITROETSYVENNGENPYWGQTLCERILVPELALLREVVKDYDWKSRNDFIGQYTLFWSCM 727	27
Qy	855	855 MPGYRHVYLEGMEEASIFVHVAVSDIS 881	
Db	728	QQGYRHIHLLSKDGLSLHPASIFVHICTQEVS 759	
RESULT 4	4		

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RESULT 4
T32374
T32374
Typothetical protein K10F12.3 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 29-oct-1999 #sequence
C;Species: Caenorhabditis elegans
C;Date: 29-oct-1999 #sequence
C;Species: Caenorhabditis elegans
C;Date: 29-oct-1999 #sequence
C;Species: T32374
R;Mohldmann, P: Beck, C
submitted to the EMBL Data Library, September 1997
A;Mohldmann, P: Beck, C
submitted to the EMBL Data Library, September 1997
A;Mohlded to the EMBL Data Library, September 1991
C;Genetics:
A;Genetics: Strain Bristol N2; clone K10F12
C;Genetics:
A;Genetics: 46/1; 96/1; 124/3; 165/1; 223/3; 282/3; 340/3; 381/1; 485/3; 516/2; 549/1;
C;Genetics: 46/1; 96/1; 124/3; 165/1; 223/3; 282/3; 340/3; 381/1; 485/3; 516/2; 549/1;
C;Genetics: 46/1; 96/1; 124/3; 165/1; 223/3; 282/3; 340/3; 381/1; 485/3; 516/2; 549/1;
C;Genetics: 46/1; 96/1; 124/3; 165/1; 223/3; 282/3; 340/3; 381/1; 485/3; 516/2; 549/1;
C;Genetics: 46/1; 96/1; 124/3; 165/1; 223/3; 282/3; 340/3; 381/1; 485/3; 516/2; 549/1;
C;Genetics: 46/1; 96/1; 124/3; 165/1; 223/3; 282/3; 340/3; 381/1; 485/3; 516/2; 549/1;
C;Genetics: 46/1; 96/1; 124/3; 165/1; 223/3; 282/3; 340/3; 381/1; 485/3; 516/2; 549/1;
C;Genetics: 46/1; 96/1; 124/3; 165/1; 223/3; 282/3; 340/3; 381/1; 485/3; 516/2; 549/1;
C;Genetics: 46/1; 96/1; 124/3; 165/1; 223/3; 282/3; 340/3; 381/1; 485/3; 516/2; 549/1;
C;Genetics: 46/1; 96/1; 124/3; 165/1; 223/3; 282/3; 340/3; 381/1; 485/3; 516/2; 549/1;
C;Genetics: 46/1; 96/1; 124/3; 165/1; 223/3; 282/3; 340/3; 381/1; 485/3; 516/2; 549/1;
C;Genetics: 46/1; 96/1; 124/3; 165/1; 223/3; 282/3; 340/3; 381/1; 485/3; 516/2; 549/1;
C;Genetics: 46/1; 96/1; 124/3; 165/1;
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Best Local Similarity

35.8%;

16;

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A;Cross-references: GB:U50564
C;Comment: The products of hydrolysis, diacylglycerol and D-myo-inositol 1,4,5-triphosph
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PC4183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) delta-1 - Chir
N;Alternate names: phosphoinositidase C; phospholipase C-delta-1; triphosphoinositide
C;Species; Cricetulus griseus (Chinese hamster)
                                                                                                                                                                                                                                                           A; Gene: PLCdeltal
                                                                                                                                                                                                                                                                                                                                         A; Residues: 1-745 <LEO>
                                                                                                                                                                                                                                                                                                                                                                       A; Status: nucleic acid sequence not shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Biochem. Biophys. Res. Commun. 224, 382-390, 1996
A;Title: Genomic organization of the hamster phospholipase C-deltal gene: Differential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Date: 02-Jun-2000 #sequence_revision 02-Jun-2000 #text_change 02-Jun-2000 C;Accession: PC4183
                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                     A; Accession: PC4183
                                                                                                                                                                                                                                                                                                                                                                                                                      A; Contents: fibroblast
                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Reference number: PC4183; MUID:96295498; PMID:8702399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R; Leonis, M.A.; Silbert, D.F.
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          Query Match
                                      713/Domain: protein kinase C C2 region homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     751
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                576 QATRNYCVRVFPNPSRVDSSNLNPQEFWNNGVQMVCLNYQTPGLMMDLQEGKFSDNGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       668 RFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       551 KAEEDVES---GEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGODSPGGOSR 607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      496
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TIPFECLQPGYRHIYLLNNEGDPLEHATLFVHVAITNRRGGGKAKK 796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TLAFSSMMPGYRHVYL---EG--MEEASIFVHVAVSDI--SGKVKQ 886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EVFGLPGDCAEERTRTVRNDSINPSFDESFQFQVSVPELALVRFLVLDDDYIGDDFIGQY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YVLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YVLKPQVMKDDMFVPSDRVPTSPQI----LHLRILSGQQLPRPRGS--NAKGDSADPFVVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GATROKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYL 667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCED-----PNNFSVSTLSPSGKLGRKS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ----DLLSTAPGSTTMSSRKN------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----ASTTRR------KSKRIQLCKELSDLVPVFENVKTLN------
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Score 1287;
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                                  864 --EGMEEASIFVHVAVSD 879
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                                                                                                                                                                                                                                                        690 NPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSEDP
                                                                                                                                                                                                                                                                                                 492 HFGGFSNPSTSGQAFYEMASFSENRALRLLQESGNNFVRHNVSHLSRIYPAGRRTDSSNY
                                                                                                                                                                                                                                                                                                                                                                                                              573 VGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              419 QLKGKILLKGKKFGGLLPAGGENGPETTDVSDEDEAAEMEDE---------
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    337 HNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVI 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  160 ARRORTRDOWLKOTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREAD---TD 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      44 AMQEGMOMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRK----NEKAKISIDSIQEVSEGR 99
NGDQHPSATLFVKISLQD
                                                                GFNPWWDTEFEFEVAVPDLALVRFVVEDYDASSKNDFIGQSTIPWNSLKQGYRHVHLLSK
                                                                                                                                           GPWWAQKRLRVRVISGQQLPKVNKS----KNSIVDPKVIVEVHGVGQDVASRQTAVITNN
                                                                                                                                                                              LPCQLKKQLVLRIISCQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDN 807
                                                                                                     GFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL---
                                                                                                                                                                                                                      SPVEMWNGGCQIVALNFQTPGPEMDVYLGRFQDNGACGYVLKPAFLRDPDTAFNPRALTQ
                                                                                                                                                                                                                                                                                                                                                                                  VRSQVQQKSKEDKLNVAPE---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MLKGKILVKGKK----LPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASINRKRVENT 512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSS 336
                                                                                                                                                                                                                                                                                                                                   ATHDIEMEAASS----WQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQ 456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HNTYLLEDQLTGPSSTEAYIRALCKGCRCLELDCWDGPNQEPIIYHGYTFTSKILFYDVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ALSLIERYEPSETAKAQRQMTKDGFLMYLLSADGSAFSLAHRRVYQDMDQPLSHYLVSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ----SLEDEEIETFYKMLTQRAEIDRVFAEAAGSAETLSVEKLVTFLQHQQREEAAGPAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QSEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSL 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           307;
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8; Mismatches 279;
                                                                                                                                                                                                                                                                                                                                                                            ----LSDMVIYCKSV
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RESULT 6

C;Species: Homo sapiens (man)
C;Date: 02-Jun-2000 #sequence\_revision 02-Jun-2000 #text\_change 02-Jun-2000
C;Accession: A55943
R;Cheng, H.F.; Jiang, M.J.; Chen, C.L.; Liu, S.M.; Wong, L.P.; Lomasney, J.I. J. Biol. Chem. 270, 5495-5505, 1995 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) delta-1 [vali N;Alternate names: phosphoinositidase C; phospholipase C-delta-1; triphosphoinositide \_C.L.; Liu, S.M.; Wong, L.P.; Lomasney, J.W.;

DB 1;

Length 745;

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A;Title: Cloning and Identification of amino acid residues of human phospholipase Cdelta
A;Reference number: A55943; MUID:95197554; PMID:7890667
A;Accession: A55943
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              F;140-172/Domain: calmodulin repeat homology <EF1>F;176-208/Domain: calmodulin repeat homology <EF2>F;176-208/Domain: calmodulin repeat homology <EF2>F;298-440/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain F;491-612/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain F;614-724/Domain: protein kinase C C2 region homology <KC2>
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A;Cross-references: GDB:6075994
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A; Residues: 1-756 <CHE>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 156 EDSLARRORTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREAD- 214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         333
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                                                                                                                                                                     626 VKYTKSVATHDIEMEAA---SSWQVSSFSETKAHQILQQKPAQYLRENQQQLSRIYPSSY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            44 AMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRK----NEKAKISIDSIQEVSEGR 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21
                                                            683 RVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVF 740
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALLKGSQLLKVKSSSWRRERFYKLQEDCKTI-WQESRKVMRTPESQLFSIEDIQEVRMGH 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GPALALSLIERYEPSETTKAQRQMTKDGFLMYLLSADGSAFSLAHRRVYQDMGQPLSHYL 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SQTD----SLEDEETEAFYKMLTQRVETDRTFAEAAGPGETLSVDQLVTFLQHQQREEAA 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SGSMDQRQKLQ-HWIHSCLRKADKNKDNKMSFKELQNFLKELNIQVDDSYARKIFRECDH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RTEGLEKFARDVPE-----DRCFSIVFKDQRNTLDLIAPSPADAQHWVLGLHKI---IHH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTLPSPQMLKGKILVKGKKLPANISEDAEEGE----VSDEDSADEIDDDCKLLNGDASTN 505
                                                                                                                                                                                                                                                                                                                                                      RSRVQHKP----KEDKLR-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKL---DLSSVSSEDA 449
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILF 392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        308;
      VIYCKSVHFGGFSSPGTPGQAFYEMASFSENRALRLLQESGNGFVRHNVGHLSRIYPAGW
                                                                                                                                                                                                                                                                                                                                                                                                            RKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGAS 565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -SLPSPEQLKGKILLKGKKLGGLLPPGGEGGPEATVVSDEDEAAEMEDEAV------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDVLRAIRDYAFKASPYPVILSLENHCTLEQQRVMARHLHAILGPMLLNRPLDGVTN---
                                                                                                                                                                                                                                                                                             RRNGRLYVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDL 625
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2.4e-58
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F;176-208/Domain: c
F;298-440/Domain: 1
F;491-612/Domain: 1
F;614-724/Domain: p
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A;Title: Cloning and sequence of multiple forms of phospholipase A;Reference number: A90899; MUID:88270495; PMID:3390863
A;Accession: B28821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
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J. Hypertens. 9, 997-1004, 1991
A;Title: Phospholipase C-delta gene of the spontaneously hypertensive rat harbors poi
A;Reference number: 155942; MUID:92098966; PMID:1684614
A;Accession: 155942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Species: Rattus norvegicus (Norway rat)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 02-Jun-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Note: this translation is not annotated in GenBank entry S74591, release 113.0 A;Note: spontaneously hypertensive mutant C;Comment: The products of hydrolysis, diacylglycerol and D-myo-inositol 1,4,5-tripho C;Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase delta-1; 1-p phosphodiesterase domain y homology; calmodulin repeat homology; pleckstrin repeat homo;Keywords: duplication; EF hand; lipid degradation; phosphoric diester hydrolase; si F;19-128/Domain: pleckstrin repeat homology CPLK>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C; Accession: B28821; I55942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) delta-1 - rat
N;Alternate names: phosphoinositidase C; phospholipase C-delta-1; triphosphoinositide
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A;Residues: 1-411,'M',413-422,'S',424-462,'D',464-626,'A',628,'K',630-667,'A',669-756
A;Cross-references: GB:S74591; NID:9241276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: GB:M20637; GB:J03136; NID:g206219; PIDN:AAA41886.1; PID:g206220
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A; Residues: 1-756 <SUH>
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                                                                                                                                                                                                                                             160 ARRORTRDOWLKOTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREAD---TD 216
                                                                                                                                                                                                                                                                                                                                                                  100
                                                                              195 ----SLEDEEIETFYKMLTQRAEIDRAFEEAAGSAETLSVERLVTFLQHQQREEEAGPAL
               275 ESCODIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFIT 334
                                                                                                                                                                                                                                                                                                               80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              44 AMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRK----NEKAKISIDSIQEVSEGR 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
                                                                                                                                                                                                                                                                                                                                                                                                                        21 ALLKGSQLLKVKSSSWRRERFYKLQEDCKTI-WQESRKVMRSPESQLFSIEDIQEVRMGH 79
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                                                                                                                                 DHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQK--MAGVTL
                                                                                                                                                                                          DQRQKLQ-HWIHSCLRKADKNKDNKMNFKELKDFLKELNIQVDDGYARKIFRECDHSQTD 194
                                                                                                                                                                                                                                                                                                                                                                  QSEVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSL 159
                                                                                                                                                                                                                                                                                                            RTEGLEKFA-RDIPEDRCFSIVFKDQRNTLDLIAPSPADAQHWVQGLRKI---IHHSGSM 135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             308;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative 131; Mismatches 273;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 calmodulin repeat homology <EF1>
calmodulin repeat homology <EF1>
calmodulin repeat homology <EF2>
l-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain l-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain l-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain
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35.8%; Pred. No. 5.8e-57
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A; Molecule type: mRNA
A; Residues: 1-709 <SUH>
C; Comment: The products of hydrolysis, diacylglycerol and D-myo-inositol 1,4,5-triphosph
C; Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase delta-1; 1-phos
C; Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain Y homology; calmodulin repeat homology; pleckstrin repeat homolog;
C; Keywords: duplication; EF hand; lipid degradation; phosphoric diester hydrolase; signa
C; Keywords: duplication; EF hand; lipid degradation; phosphoric diester hydrolase; signa
F; 16-81, Domain: pleckstrin repeat homology (fragment) <PLK>
F; 129, Toomain: calmodulin repeat homology <EFI>
F; 129-161, Domain: calmodulin repeat homology <EFI>
F; 129-161, Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X hom
F; 444-565, Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X homology <EFI
F; 129-161, Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X homology <EFI
F; 129-161, Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X homology <EFI
F; 129-161, Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X homology <EFI
F; 129-161, Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X homology <EFI
F; 129-161, Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X homology <EFI
F; 129-161, Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X homology <EFI
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F; 129-161, Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X homology <EFI
F; 129-161, Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X homology <EFI
F; 129-161, Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X homology <EFI
F; 129-161, Domain: 1-
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(C28821

1-phósphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) delta-1 - boyi
N; Alternate names: phosphoinositidase C; phospholipase C-delta-1; triphosphoinositide
C; Species: Bos primigenius taurus (cattle)
C; Date: 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change 02-Jun-2000
C; Accession: C28821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R;Suh, P.G.; Ryu, S.H.; Moon, K.H.; Suh, H.W.; Rhee, S. Cell [44, 161-169, 1988
A;Title: Cloning and sequence of multiple forms of phos A;Reference number: A90899; MUID:88270495; PMID:339086; A;Accession: C28821
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Cell 5
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73 CIRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRY----PDGSFDPNCCFSIYHGSHRES 128
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                                                                                                                                                          Similarity
                                                                                                            Conservative
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A90899; MUID:88270495; PMID:3390863
                                                                                                                                            19.5%; Score 1244; DB 2; 35.9%; Pred. No. 2.8e-56;
                                                                                                            124;
                                                                                                        Mismatches
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DYDASSKNDFIGQSTIPLKSLKQGYRHIHLLSKNGDQHPSATLFVKVALQD
                                    DHDPIGR-DFIGORTLAFSSMMPGYRHVYL----EGMEEASIFVHVAVSD 879
                                                                                                                                                      QGRFLDNGACGYVLKPAFLRDPNSTFNSRALAHGPWWTPKRLNVRVISGQQLPKVNK---
                                                                            - NKNSIVDPKVTVEIHGVTGDVASRQTAVVTNNGFNPWWDTELEFEVAVPELALVRFVVE
                                                                                                        GDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEETLVFMVHMPEIALVRFLVW
                                                                                                                                                                                             RAKFSANGGCGYVLKPGCM---CQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSML
                                                                                                                                                                                                                                  RLLQESGNSFVRHNVNHLSRIYPAGWRTDSSNYSPVEMWNGGCQIVALNFQTPGSEMDVY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RCLELDCWDGPNQEPIIYHGYTFTSKILFCDVVRAIRDYAFKASPYPVILSLENHCSLEQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ELQNFLKELNIQVDDSYARKIFKECDHSQTD----SLEDEEIETFYKILTQRKEIDRTFE 172
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A; McJecule type: mRNA
A; McJecule type: mRNA
A; McJecule type: mRNA
A; Residues: 1-1291 <STA>
A; Cross-references: EMBL:Y00301; NID:g638; PIDN:CAA68406.1; PID:g639
A; Cross-references: EMBL:Y00301; NID:g638; PIDN:CAA68406.1; PID:g639
C; Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
C; Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
hodiesterase domain Y homology; SH2 homology; SH3 homology 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) isozyme II N;Alternate names: phosphoinositol-specific phospholipase C-II; phospholipase C, 14 C;Species: Bos primigenius taurus (cattle) C;Date: 31-Dec-1988 #sequence\_revision 31-Dec-1988 #text\_change 04-Feb-2000 C;Accession: S00666 A;Title: Sequence similarity of phospholipase C with the A;Reference number: S00666; MUID:88156963; PMID:2831461 A;Accession: S00666 R;Stahl, M.L.; Ferenz Nature 332, 269-272, Ferenz, 1988 C.R.; Kelleher, K.L.; Kriz, R.W.; non-catalytic region Knopf, J.L. II; 0f

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C;Keywords: phosphoric diester hydrolase
F;322-464/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X hom
F;550-657/Domain: SH2 homology <SH21>
F;668-756/Domain: SH2 homology <SH22>
F;668-756/Domain: SH2 homology <SH22>
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F;798-846/Domain: SH3 homology <SH3>
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                                                   880 ACQIAVRPEGKNNRLFVFSISMASVAHWSLDVAADSQEELQDWVKKIREVAQTADARLTE 939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60 ITWSRGADKIEGAIDIREIKEIRPGKTSRDFDRYQEDPAFRPDQSHCFVILYGMEFRLKT 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGT--LGFEEFCAFYK--MMSTRRDLYLL 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LSLQATSEDEVNMWIRGLTWLM-----EDTLQAATPLQIERWLRKQFYSVDRNREDRISA 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LDLVSTSSEVARTWVTGLRYLMAGISDEDSL-ARRQRTRDQWLKQTFDEADKNGDGSLSI 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKY 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FLEASALRAGERPELCRYSLPEFQQFLLEYQGELWAVDRLQVQEFMLSFLRDPLREIEEP 291
                                                                                                                                                                                                                                                                                                                                                                                                                                             DGSFLVRESETFVGDYTLSFWRNGKVQHCRIHSRQDAGTPKFFLTDNLVFDSLYDLITHY 639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AFVASEYPVILSIEDHCSIAQQRNMAQYFKKVLGDTL-LTKPVDIAADGLPSPNQLKRKI 459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKI 462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GDQFSSESSLEAYARCLRMGCRCIELDCWDGPDGMPVIYHGHTLTTKIKFSDVLHTIKEH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LIKHKKLAEGSAYEEVPTSVMYSENDISNSIKNGILYLEDPVNHEWYPHYFVLTSSKIYY 519
            GATROKKTMKLSRALSDLVKYTKSVATHD--IEMEAASSWQVSSFSETKAHQILQQ-KPA 664
                                                                                                                                                                                                                                                  -----TLSPS-GKL--GR------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ----LIKES------KIRDC------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEETSSDQGNEDEEEPKEASGSTELHSNEKWFHGKLGAGRDGRHIAERLLTEYCIETGAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -EVSDEDSADEIDDDCKLLNG--DASTNRKRV------ENTAKRKLDS-----
                                                                                                                                 NVEKQEGGWWRGDYGGKKQLWFPSNYVEEMVSPAALEPEREHLDENSPLGDLLRGVLDVP 879
                                                                                                                                                                          DVESGE-----DAGASR-----
                                                                                                                                                                                                             ALEKIGTAEPDYGALYEGRNPGFYVEANPMPTFKCAVKALEDYKAQREDELTFTKSAIIQ 819
                                                                                                                                                                                                                                                                                         NSYAISFRAEGKIKHCRVQQEGQTVMLGNSEFDSLVDLISYYEKHPLYRKMKLRYPINEE 759
                                                                                          Conservative 151; Mismatches 317; Indels 404; Gaps
<del>-</del>
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                                                                                                                                                                                                                                                        -KSKAEE 554
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A;Map position: 20q12-20q13.1

A;Map position: 20q12-20q13.1

C;Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase II; 1-phosph hodiesterase domain Y homology; SH2 homology; SH3 homology

C;Keywords: phosphoric diester hydrolase

F;322-464/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X

F;550-657/Domain: SH2 homology <SH21>

F;668-756/Domain: SH3 homology <SH32>

F;798-046/Domain: SH3 homology <SH32>

F;952-1073/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain Y

F;952-1073/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain Y
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A;Title: Characterization and cDNA cloning of phospholipase C-gamma, a major substrat A;Reference number: A36466; MUID:90355993; PMID:2167438
A;Accession: A36466
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Gene: GDB:PLCG1; PLC1
A;Cross-references: GDB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Cross-references: GB:M34667; NID:g190037; PIDN:AAA36452.1; PID:g190038 C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: mRNA
A; Residues: 1-1290 <BUR>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1059 HCGYVLQPSVMRDEAFDPFDKSSLRGLEPCAICIEVLGARHLPK-----NGRG-IVCPF 1111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        940 GKMMERR-KKIALELSELVVYCRPVPFDEEKIGTERACYRDMSSFPETKAEKYVNKAKGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             999 KFLQYNRLQLSRIYPKGQRLDSSNYDPLPMWICGSQLVALNFQTPDKPMQMNQALFLAGG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120 LSLQATSEDEVNMWIKGLTWLM-----EDTLQAPTPLQIERWLRKQFYSVDRNREDRISA 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             129 LDLVSTSSEVARTWVTGLRYLMAGISDEDSL-ARRORTRDQWLKQTFDEADKNGDGSLSI 187
       345
                                                                                                                                                                                                                        234 EASTLRAGERPELCRYSLPEFQQFLLDYQGELWAVDRLQVQEFMLSFLRDPLRETEEPY- 292
                                                                                                                                                                                                                                                                                              246 TYS----NHKDHLDAASLQRF------LQVEQKMAGVTLESCQDIIEQFE 285
                                                                                                                                                                                                                                                                                                                                                                                                                                             188 GEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYK--MMSTRRDLYLLML 245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60 ITWSRGADKIEGAIDIREIKEIRPGKTSRDFDRYQEDPAFRPDQSHCFVILYGMEFRLKT 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                74 IRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRY-PDGSF--DPNCCFSIYHGS--HRES 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
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QLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAF 404
                                                                                                                                                                                                                                                                                                                                                                        KDLKNMLSQVNYRVPNMRFLRE-RLTDLEQRSGDITYGQFAQLYRSLMYSAQKTMDLPFL 233
                                                                                                                                                       PCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQD-MTQPLSHYFITSSHNTYLVGD 344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             306;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative 157; Mismatches 331; Indels 423;
                                                                                 ---FFLDEFVTFLFSKENSVWNSQLDAVCPDTMNNPLSHYWISSSHNTYLTGD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 1290;
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C;Accession: A48047; JN0691
R;Lee, C.W.; Park, D.J.; Lee, K.H.; Kim, C.G.; Rhee, S.G.
J. Bidl. Chem. 268, 21318-21327, 1993
A;Title: Purification, molecular cloning, and sequencing of phospholipase C-beta 4.
A;Reference number: A48047; MUID:94012687; PMID:8407970
                                                                                                              phospholipase C (EC 3.1.4.-) beta-4 - rat
C;Speciles: Rattus norvegicus (Norway rat)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 02-Jun-2000
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A48047
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          666 YLRENQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         941 KIMERR-KKIALELSELVVYCRPVPFDEEKIGTERACYRDMSSFPETKAEKYVNKAKGKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       761 LEKIGTAEPDYGALYEGRNPGFYVEANPMPTFKCAVKALFDYKAQREDELTFIKSAIIQN 820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           641
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           522 ETSSDQGNEDEEEPKEVSSSTELHSNEKWFHGKLGAGRDG-RHIAERLLTEYCIETGAPD 580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          476
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   465
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                                                                                                                                                                                                                                                                                                                                                                                LAQATFPVKGLKTGYRAVPLKNNYSEDLELASLLIKIDIFPAKENGDLSPFSGTSLRERG 1232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EIEVAGAEYDSTKQKTEFVVDNGLNPVWPAKPFHFQISNPEFAFLRFVVYEEDMFSDQNF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGYVLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFV 785
                                                                                                                                                                                                                                                                                                      SDASGQLFHGRAREGSF 1249
                                                                                                                                                                                                                                                                                                                                                SDISGKVKQALGLKGLF 894
                                                                                                                                                                                                                                                                                                                                                                                                                                 IGQRTLAFSSMMPGYRHV----YLEGMEEASIFVHVAV----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EVEIIGLPVDCSREQTRVVDDNGFNPTW-EETLVFMVHMPEIALVRFLVWDHDPIG-RDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGYVLQPSTMRDEAFDPFDKSSLRGLEPCAISIEVLGARHLPK-----NGRG-IVCPFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FLQYNRLQLSRIYPKGQRLDSSNYDPLPMWICGSQLVALNFQTPDKPMQMNQALFMTGRH 1059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CQIAIRPEGKNNRLFVFSISMASVAHWSLDVAADSQEELQDWVKKIREVAQTADARLTEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATROKKTMKLSRALSDLVKYTKSVATHD--IEMEAASSWQVSSFSETKAHQILQQ-KPAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -----RNGRLVVGSFSRRKKKGSKLKKAASVEE-----GDEGQDSPGGQSRG 608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VEKQEGGWWRGDYGGKKQLWFPSNYVEEMVNPVALEPEREHLDENSPLGDLLRGVLDVPA 880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VESGE-----DAGASR----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SYAISFRAEGKIKHCRVQQEGQTYMLGNSEFDSLVDLISYYEKHPLYRKMKLRYPINEEA 760
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ----TLSPS-GKL--GR------
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QFSSESSLEAYARCLRMGCRCIELDCWDGPDGMPVIYHGHTLTTKIKFSDVLHTIKEHAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DA-----EEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDS---
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Note: this translation is not annotated in GenBank entry RATBETA4AA, release 113.0 R;Kim, M.J.; Bahk, Y.Y.; Min, D.S.; Lee, S.J.; Ryu, S.H.; Suh, P.G. Biochem. Biophys. Res. Commun. 194, 706-712, 1993
A;Title: Cloning of cDNA encoding rat phospholipase C-beta4, a new member of the phos A;Reference number: JN0691; MUID:93343926; PMID:7688223
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A;Status: preliminary; not compared with conceptual translation
A;Molecule type: mRNA
A;Residues: 1-1176 <LIEE>
A;Cross-references: GB:L15556; NID:g404071
A;Experimental source: brain
A;Mote: sequence extracted from NCBI backbone (NCBIP:138517)
A;Note: sequence extracted from NCBI backbone (NCBIP:138517)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Cross-references: GB:L18962
A;Experimental source: brain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Molecule type: mRNA
A;Residues: 1-254,'M',256-307,'A',309-416,'E',418-469,'K',471-504,506-545,'DE',548-73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C; Keywords: phosphoric diester hydrolase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          315-463/Domain:
          602 PGGOSRGATROKKTMKLSRALSDLVKYTKSVATHDIEM--EAASSWQVSSFSETKAHQIL
                                                                                513
                                                                                                                                                                           484 GESAAPASILEDD----
                                                                                                                                                                                                                                 488
                                                                                                                                                                                                                                                                                  424
                                                                                                                                                                                                                                                                                                                                 431
                                                                                                                                                                                                                                                                                                                                                                364 GKGEDQEPIITHGKAMCTDILFKDVIQAIKETAFVTSEYPVILSFENHCSKYQQYQMSKY
                                                                                                                                                                                                                                                                                                                                                                                                                                 373
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        138 -ANNYSPMTCLKKHWMKLAF---LINTSGKIPVRSITRTFASGKTEKVIFQALKEL--GL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       155 DEDSLARRORTROWLKOTFDEADKNGDGSLSIGE------VLQLLHKLNVNL 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           123
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99
                                                                             PEYKFGNELSADD - - - -
                                                                                                               PSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQDS
                                                                                                                                                                                                               ADE-----IDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTLS 541
                                                                                                                                                                                                                                                              CEDLFGDLLLKQALESHPLEPGRLLPSPNDLKRKILIKNKRLKPEVEKKQLEALKSMMEA
                                                                                                                                                                                                                                                                                                               LTDILGD---KLDLSSYSSEDATTLPSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDS
                                                                                                                                                                                                                                                                                                                                                                                                            --GPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FNPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SFLNEHORDPRLNEILFPFYDAKRAMQIIEMYEPDEELKKKGLISSDGFCRYLMSDENAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RFLQVEQKMAGVT-----LESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDI
                                                                                                                                                                                                                                                                                                                                                                                                                                                             VFLDRLELYQEMDHPLAHYFISSSHNTYLTGRQFGGKSSVEMYRQVLLAGCRCVELDCWD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRORVKOMFREADTDDHOGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHK-DHLDAASLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KILAALESVGKSENDLEGRILCVCSGTDLVNIGFTYMVAENPEITKQWVEGLRSIIHNFR 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----GSHRESLD------LVSTSSEVARTWVTGLRYLMAGIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RQSEVFQRYPDGS--FDPNCCFSIYH------
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15.6%; Score 997; DB 1; 29.7%; Pred. No. 2.4e-43;
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                                                                                                                                                                     -NEEEIESAADQEEEA
                                                                ------FSHKEAVANSVKKGLVTVE-DEQAWM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches 326;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 1176;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels 224;
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                  659
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Db 666 KTIRLIEWATKIRGONCI-OVENNENGSHYMOJERNACOWYSIANTOPULAMALONK 053  9720 PSANGCIGITUS PERMENDETEDENGLIANCISCOLIS SOCIENCE TO THE MEDICAL SOCIENCE TO
CLKKOLVLRIISGQQLPKPRDSMLGDR 777  : NAATCSVQVISGQFLSDK 717  VAAATCSVQVISGQFLSDK 717  : I
CLANGLEVELLES COULTER FEDERAL ()  (1) :
FYNPTW-EETLVF-WYHMPELLVRELV 833 [  :   -  -  -  -  -  -  -  -  -  -  -  -
SCHEEASIFVHVAVSDISGKV 884
GGNEPASIFVHVAVSDISGKV 884
GGRKPLSLDFTFCNIVLKTYVPDGLGDI 832  GGPKPGSLDSHAAGRPPARPSVSQR 920
GPKPGSIDSHAAGRPPARPSVSOR 920     :
DVPSDTSKNDKKGKANPAKANVTPQSSS 892  Sephodiesterase (EC 3.1.4.11) gamma-D - fru Sep-1999 #text_change 17-Mar-2000  shijima, S.; Shishido, E.; Saigo, K.; Homma sexpressed predominantly in blastoderm cells pwID:8034716  bisphosphate phosphodiesterase II; 1-phosph gy; SH3 homology ,5-bisphosphate phosphodiesterase domain x ,5-bisphosphate phosphodiesterase 1: 1-phosph gy; SH3 homology ,5-bisphosphate phosphosphaterase 1: 1-phosphosphater
Sep-1999 #text_change 17-Mar-2000 Sep-1999 #text_change 17-Mar-2000 Shijima, S.; Shishido, E.; Saigo, K.; Homma expressed predominantly in blastoderm cells PMID:8034716  bisphosphate phosphodiesterase II; 1-phosph gy; SH3 homology ,5-bisphosphate phosphodiesterase domain x ,9-3e-43;
Sep-1999 #text_change 17-mar-2000 shijima, S.; Shishido, E.; Saigo, K.; Homma shijima, S.; Shishido, E.; Saigo, K.; Homma sexpressed predominantly in blastoderm cells pwID:8034716 bisphosphate phosphodiesterase II; 1-phosph gy; SH3 homology ,5-bisphosphate phosphodiesterase domain x ,5-bisphosphate phosphodiesterase domain x ,5-bisphosphate phosphodiesterase domain x ,5-bisphosphate phosphodiesterase domain x ,6; DB 1; Length 1236; .9.3e-43; Indels 440; Gaps 42; tches 328; Indels 440; Gaps 42; tches 328; Indels 440; Gaps 42; .VRFYYLDEHRSCIRWRP 78
Sep-1999 #text_change 17-Mar-2000 Sep-1999 #text_change 17-Mar-2000 Shijima, S.; Shishido, E.; Saigo, K.; Homma expressed predominantly in blastoderm cells pMID:8034716  bisphosphate phosphodiesterase II; 1-phosph gy; SH3 homology  ,5-bisphosphate phosphodiesterase domain x ,5-bisphosphate phosphodiesterase domain x  4,5-bisphosphate phosphodiesterase domain x  4,5-bisphosphate phosphodiesterase domain x  4,5-bisphosphate phosphodiesterase domain x  6; DB 1; Length 1236; ,9.3e-43; tches 328; Indels 440; Gaps 42;  VRFYYLDEHRSCIRWRP 78
Sep-1999 #text_change 17-Mar-2000 Sep-1999 #text_change 17-Mar-2000 Shijima, S.; Shishido, E.; Saigo, K.; Homma expressed predominantly in blastoderm cells expressed predominantly in blastoderm cells pMID:8034716  bisphosphate phosphodiesterase II; 1-phosph gy; SH3 homology ,5-bisphosphate phosphodiesterase domain x ,5-bisphosphate phosphodiesterase domain x ,5-bisphosphate phosphodiesterase domain x ,6; DB 1; Length 1236; tches 328; Indels 440; Gaps 42: MREYYLDEHRSCIRRP 78
Sep-1999 #text_change 17-Mar-2000 Sep-1999 #text_change 17-Mar-2000 shijima, S.; Shishido, E.; Saigo, K.; Homma spread predominantly in blastoderm cells pwid: 8034716  bisphosphate phosphodiesterase II; 1-phosph gy; SH3 homology ,5-bisphosphate phosphodiesterase domain x ,5-bisphosphate phosphodiesterase 11; 1-phosph ,5-bisphosphate phosphodiesterase 11; 1-phosphosph ,5-bisphosphate phosphosphodiesterase 11; 1-phosphosph ,5-bisphosphate phosphosphosphosphosphosphosphosphosphos
shijima, S.; Shishido, E.; Saigo, K.; Homma expressed predominantly in blastoderm cells pwID:8034716  bisphosphate phosphodiesterase II; 1-phosph gy; SH3 homology ,5-bisphosphate phosphodiesterase domain x ,5-bisphosphate phosphodiesterase domain x 4,5-bisphosphate phosphodiesterase domain x 4,5-bisphosphate phosphodiesterase domain x 6, DB 1; Length 1236; 9.3e-43; tches 328; Indels 440; Gaps 42; vvryvlderscir
expressed predominantly in blastoderm cells pMID:8034716  bisphosphate phosphodiesterase II; 1-phosph gy; SH3 homology  ,5-bisphosphate phosphodiesterase domain x  4,5-bisphosphate phosphodiesterase domain x  4,5-bisphosphate phosphodiesterase domain x  6; DB 1; Length 1236; 1ches 328; Indels 440; Gaps 42;  VRFYYLDEHRSCIRRP 78
bisphosphate phosphodiesterase II; 1-phosph gy; SH3 homology ,5-bisphosphate phosphodiesterase domain x ,5-bisphosphate phosphodiesterase domain x 4,5-bisphosphate phosphodiesterase domain x 4,5-bisphosphate phosphodiesterase domain x 6; DB 1; Length 1236; .9.3e-43; tches 328; Indels 440; Gaps 42; .VRFYYLDEHRSCIRRP 78 
bisphosphate phosphodiesterase II; 1-phosph gy; SH3 homology ,5-bisphosphate phosphodiesterase domain x 4,5-bisphosphate phosphodiesterase domain x 6; DB 1; Length 1236; .9.3e-43; Ltches 328; Indels 440; Gaps 42; LYREYYLDEHRSCIRRP 78
bisphosphate phosphodiesterase II; 1-phosph gy; SH3 homology ,5-bisphosphate phosphodiesterase domain x 4,5-bisphosphate phosphodiesterase domain y 4,5-bisphosphate phosphodiesterase domain y 6; DB 1; Length 1236; 9.3e-43; Indels 440; Gaps 42; tches 328; Indels 440; Gaps 42; vreyyldehrscir
,5-bisphosphate phosphodiesterase domain x 4,5-bisphosphate phosphodiesterase domain y 6; DB 1; Length 1236; .9.3e-43; Indels 440; Gaps 42; tches 328; Indels 440; Gaps 42; trhes 328; Indels 440; Gaps 42; .VRFYYLDEHRSCIRRP 78
4,5-bisphosphate phosphodiesterase domain Y 6; DB 1; Length 1236; .9.3e-43; Indels 440; Gaps 42; tches 328; Indels 440; Gaps 42; tches 328; Indels 440; Gaps 42; .VRFYYLDEHRSCIRWRP 78
6; DB 1; Length 1236; 1, 9.3e-43; 1, 1, 1, 2, 3e-43; 1, 1, 2, 3e-43; 1, 1, 2, 3e-43; 1, 1, 2, 3e-43; 1, 1, 2, 3e-40; Gaps 4 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1
Matches 315; Conservative 177; Mismatches 328; Indels 440; Gdps 30; LSANILPVVERCMGAMQEGMONVKLRGGSKGLVRFYYLDEHRSCIRWRP 78;
30 LSANILPVVERGMANDEGMONVKLRGSKGL/REYYLDEHRSCIR
79 SKNEKAKISIDSIQEVSEGROSEVGRYPDGSFEDDNCCFSIYHGSHRESLDLVST 19 SKNEKAKISIDSIQEVSEGROSEVGRYPDGSFEDDNCCFSIYHGSHRESLDLVST 19 SKEVARTWEGAIQLREIREIRVGKHSKEFRLFADDCQRFESSKCFVILHGNHFKLKSFSVVAL 135 SSEVARTWVTGLRYLMAGISDEDSLARRQRTR-DQWLKQTFDEADKNGDG 1
79 SKKNEKKISIDSIQEVSEGROSEVFORYPDGSEPDROCESTYHGSHRESULVST:
135 SSEVARTWVTGLRYLMAGISDEDSLARRORTR-DOWLKOTF
122 SEIEADNWVRGLRYMVKDTLGAPYPLQIDRWLRREYYQIENVNTHSAKATEQSPA 184 SLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMST ::  :
184 SLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEECAFYKMMST   :  :
177 OVTÍKDEKLELAGVSCKMTTGKEMEHFTEDVRRKHDLKÉDDESRLÝÓKLLLÞNGFASV 2

1234	5 ILRFEVQDEDMFAETHFIAQACYPLTCIRQGYRSVILRNKFSEELELSSLLINIKIANVT	1175	рb
881		828	Qy
1174	RGKSNNPQIVVELIGASFDTGVKYRTKVIENGFNPVWNESCEFNVRNPQFA	1123	В
827	KPRDSMLGD	768	QΥ
767 1122	3 EGRMLQLNRAKFSANGGCGYYLKPGCMCQGVFNPNSEDPL-PGQLKKQLYLRIISGQLP : :  :	709 1065	Qу
1064	FPETKAEKQFFQQNTQLFLSYHRNQISRVYPKGQRLDSSNFNPMPFWNVGSQM1ALNYOT	1005	Db
708	FSETKAH-QILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQS	650	Qy
1004	KATQEAALTASQLASERRKKERTARVAKEMSDLITYFRSVPFREHSWIFQEMSS	951	В
649	GOSRGATROKKTMKLSRALSDLVKYTKSVATHDIEMEA	604	γQ
950	SLNEEGTDGRTDSIEIFGAVASLFESNDPGIIFKLQIQTPTMQNPFVIGFDNQETAYEWI	891	рь
603	EEGDEQ	593	Qy
068	ALYSYKANKPDELSFPKHATITNVQRDNSMWWIGDYGGMIKKHLPANYVKVIDSTTEDYN	831	Db
592		566	Qy
830	INYYTRNPLYRNVKLSHPVSQELLRQALAEAAQGDHSGGHDDNGASNYMGSNLEENVTCK	771	Дb
565	-SYSTLSPSGKLGRKSKAEEDVESG-EDAGAS	536	Qy
770	AEQGLYRLEIGSFLVRPSVQSINAFVISFTINRKIKHCRIMQEGCLYGIDTMNFESLVSL	711	Ър
535		524	Qy
710	SIKYYLVENFVFDSLYSLIVYYRKNMLRSSEFSIILKEPVPQPKKHEDQEWFHPNTTKEQ	651	DЬ
523	DSLIKE	518	Qy
650	HGKLEGGRKEADDLLKKYKHFGDGTFLVRESATFYGDYSLSFWRRNRPNHCRIKLKHENG	591	DЬ
517	RRYENTAKRKL	506	Qy
590	QFVLTHQELIYSSEINESRNGNSEDDDFGLSSSCSLNSNMQQKQKDTSANDELHFGENWF	531	DЬ
505	CKLLNGDASTN	481	Qy
530	PQFDDIANGISSTGSLGHRSSLGGAGGGAHGENDGENVRKVFKEGLLYFKDPVDKSWNLY	471	Db
480	PANTSEDAEEG	470	Qy
470	QRNMAQALIEVFGDML-LTQPCDRNEQHLPSPYQLRRKIILKHKKL	412	Db
469	ILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKKL	410	Δλ.
411	SCEAYARALRMGCRCIELDCWNGPDNLPYIFHGHTITSKIKFMDVIKTIKDHAFTSSEY	352	ĎЬ
409		350	Qy
351	DVQEPYLTFPEFVDFLFSKQNDLWNSKYDQVFMDMNLPLSSYWIASSHNTYLTGDQFSSE 3	292	В
349		290	Qγ
291	VSASEISSAAIASFIRDFVQDVER	235	당 .
289	RRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLES-CQDIIEQFEPCPE 2	237	VΩ

RESULT 13
A31317
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) II - rat

Db 52 VAWSKTADKIEGFLI		5/0 AFCHSELVRESETFVGDYTLSFWRNGKVQHCRIHSRQDAGTPKFFLTDNLVFDSLYDLIT 637	5
Qy 74 IRWRPSRKNEKAKIS		579	크 .
Matches 293; Conserva		LIKESKIRDOKIRDO	o,
Query Match Best Local Similarity		QY 481EVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDS 519 Db 518 YYSEETSSDOGNEDEREPERBAGGSTELHGSSPERGERGERGFORDSTELLE 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ם ס
F;532-635/Domain: SH2 hor F;646-735/Domain: SH2 hor F;776-824/Domain: SH3 hor F;929-1047/Domain: 1-phos		Qy 461 KILVKGKKLPA	U 10
C; Supertamily: 1-phosphain v hodiesterase domain v hodisterase domain v hodisterase phosphoric d: Keywords: phosphoric d: F; 314-456/Domain: 1-phosp		Qy 401 KYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKG 460 ::  ::  :       :  :  ::   ::   ::	U 10
A; Status: preliminary A; Molecule type: mRNA A; Residues: 1-1265 <emo> A; Cross-references: GB: JI</emo>		Qy 341 LVGDQLMSQSRVDMYAMVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETIN 400	d b
A;Title: A second type o A;Reference number: A34163 A;Accession: A34163		Qy 282 EQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHV-HQDMTQPLSHYFITSSHNTY 340     :   :   :	U 10
Date: 11-Apr-1990 Accession: A34163 Emori, Y.; Homma,	· · · · · · · · · · · · · · · · · · ·	230	U 10
		173 SAKDLK	) H r
Db 1169 DQNFLAQATFPVKG		118	0 - 6
1109		60	
722 1056	36;	Query Match 15.4%; Score 985; DB 2; Length 1290; Best Local Similarity 25.6%; Pred. No. 1.1e-42; Matches 303; Conservative 157; Mismatches 313; Indels 410; Gaps	
QY 662 KPAQYLRENQQQLS   :: :: :     Db 996 KGKKFLQYNRLQLS	e domain y hg.	F;668-756/Domain: SH2 homology <sh22> F;798-846/Domain: SH3 homology <sh3> F;952-1073/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase</sh3></sh22>	~ ~ ~
Qy 605 QSRGATRQKKTMKI :  :::  : Db 937 LTEGKMMERR-KKI	; 1-phosphati domain x hom	hodiesterase domain y homology; SH2 homology; SH3 homology; C; Keywords: phosphoprotein; phosphoric diester hydrolase F; 322-464/Domain: 1-phosphatidylnositol-4,5-bisphosphate phosphodiesterase F; 550-657/Domain: SH2 homology SH215	
Db 877 DVPACQIAIRPEGE			
Db 817 IIQNVEKQDGGWW			
560		Biochem. Biophys. Res. Commun. 194, 294-300, 1993 A;Title: Promoter region of the rat phospholipase C-gamma 1 gene. A;Reference number: A56761; MUTD:93326133. DMTD:833638	
Qy 552AEE	4	A;Residues: 1-1290 <suh> A;Cross-references: GB:J03806; NID:g206323; PIDN:AAA41921.1; PID:g206324 R;Lee, S.J.; Ryu, S.H.; Suh, P.G.</suh>	
Db 698 EPNSYAIS-FRAE	and protein seque	complete cDNA	
638		R;Suh, P.G.; Ryu, S.H.; Moon, K.H.; Suh, H.W.; Rhee, S.G. Proc., Natl. Acad. Sci. U.S.A. 85, 5419-5423, 1988	
Qу 530	II; phospholipase	<pre>phospholipid-specific phospholipase C type s (Norway rat) ce_revision 31-Mar-1990 #text_change 31-Mar-</pre>	

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	-RDFIGQRTLAFSSMMPGYRHVYLEGMEEASIFVHVAV 877	841	Ÿ
1168	CPFVEIEVAGAEYDSTKQKTEFVVDNGLNPVWPAKPFHFQISNPEFAFLRFVVYEEDMFS 1	1109	ĕ
840		782	ž
1108		1056	ъ
781	SMLGDRGEII	722	¥
1055		996	ğ
721	KPAQYLRENQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFS	662	¥
995	LTEGKNMERR-KKIALELSELVVYCRPVPFDEEKIGTERACYRDMSSFPETKAEKYVNKA	937	岁
661		605	¥
936	DVPACQIAIRPEGKNNRLFVFSISMPSVAQWSLDVAADSQEELQDWVKKIREVAQTADAR 936	877	Ь
604	GDEGQDSPGG	567	Ϋ́
876	IIQNVEKQDGGWWRGDYGGKKQLWFPSNYVEEMINPAILEPEREHLDENSPLGDLLRGVL	817	b
566		560	Ŋ
816	NEEALEKIGTAEPDYGALYEGRNPGFYVEANPMPTFKCAVKALFDYKAQREDELTFTKSA	757	₽
559	AEEDVESG	552	Ϋ́
756	IS-FRAEGKIKHCRVQQEGQTVMLGNSEFDSLVDLISYYEKHPLYRKMKLRYPI	869	В
551	DPNNFSVSTLSPSGK	531	Ϋ́
697	HYQQVPLRCNEFEMRLSEPVPQTNAHESKEWYHASLTRAQAEHMLMRVPRDGAFLVRKRN 697	638	₽
530		(	2

GYRHV----YLEGMEEASIFV

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856 1160	801 TRVVDDNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIG-RDFIGQRTLAFSSMMP	рь 8
1100	-LVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQ   :::                     ::: 	Qу
744 1047	685 DSSNYNPQPFWNAGCQMVALNYQSEGRWLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNS      :          : :  :             :    993 DSSNYDPFRLWLCGSQMVALNFQTPDKYMQMNHALFSLNGRTGYVLQPESMRSEK	Qу
684 992	625 LVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRV	р Q
62 <b>4</b> 932	610	D Qy
872	TRIQQYFPSNYVEDISAGDAEEMEKQIIEDNPLGSLCRGILDLNTYNVVKAPQGKNQKAF	D .5
812	753 YDVSRMYVDPSEINPSMPQRTVKALYDYKAKRSDELTFCRGALIHNVSKEPGGWWKGDYG	O B
598	576KKAASVEEGDEG	Qy
575 752	565 SRRNGR-LYVGS	Db Qy
692	DPVPNPNPHESKPWYYDRLSRGEAEDMLMRIPRDGAFLIRKREGTDSYAITFRARGKVKH	당 !
632 564	- FWRSGRYOHCRIRSTWEGGVMKYYLTDNLTENSIYALIQHYREAHLRCAEFELRLT	ο <sub>ν</sub> .
546	SYSTLSPSGKL	γQ
535 573	495CKLLNGDASTNRKRVENTAKRKL	ру
494 517	469 LPANISEDAEEGEVSDEDSADEIDDD	Оy
468 457	409 YPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKK	Оу
408 398		Qу
348 338	290 NKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVH-QDMTQPLSHYFITSSHNTYLVGDQLMS ::   :              :: ::	Qy Db
289 278	237 RRDLYLLMLTYSNHKDHLDAASLQRF-LQVEQKMAGVTLESCQDIIEQF-EPCPE	Db Qy
236 221	192 QLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMST :  :  :  :  :	D Q
191 167	132 VSTSSEVARTWYTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEADKNGDGSLSIGEVL	Оy

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A;Residues: 1-1252 <OHT>
A;Residues: 1-1252 <OHT>
A;Cross-references: EMBL:X14034; NID:g35513; PIDN:CAA32194.1; PID:g35514
A;Cross-references: EMBL:X14034; NID:g35513; PIDN:CAA32194.1; PID:g35514
C;Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase II; 1-phosphodiesterase domain Y homology; SH2 homology; SH3 homology
C;Keywords: phosphoric diester hydrolase
F;314-456/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X
F;532-635/Domain: SH2 homology <SH2>
F;376-824/Domain: SH2 homology <SH2>
F;776-824/Domain: SH3 homology <SH3>
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R;Ohta, S.; Matsui, A.; Nazawa, Y.; Kagawa, Y.
FEBS Lett. 242, 31-35, 1988
A;Title: Complete cDNA encoding a putative phospholipase
A;Reference number: S02004; MUID:89078616; PMID:2849563
A;Accession: S02004
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C;Species: Homo sapiens (man)
C;Date: 30-Sep-1989 #sequence_revision 30-Sep-1989 #text_change 04-Feb-2000
C;Accession: S02004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 14.9%; Score 950.5; DB 2; Length 1252; Best Local Similarity 25.1%; Pred. No. 6.2e-41; Matches 292; Conservative 164; Mismatches 310; Indels 399;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1161 GFRSVPLKNGYSEDIELASLLV 1182
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               168
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                                                                                                                                                                                                     QTMEEEVPQDIPPTELHFGEKWFHKKVEKRTSAEKLLQEYCMETGGKDGTFLVRESETFP 570
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VAWSKTADKIEGFLDIMEIKEIRPGKNSKDFERAKAVRQKEDCCFTILYGTQFVLSTLSL 111
                                                                   NDYTLSFWRSGRVQHCRIRSTMEGGTLKYYLTDNLRFRRMYALIQHYRETHLPCAEFELR 630
                                                                                                                                                                                                                                                                                                                                           IIIKHKKLGPRGDVDVNMEDKKDEHKQQGELYMWDSIDQKWTRHYCAIADAKLSFSDDIE
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                                                                                                                                                                                                                                                                        · CKLLNGDASTNRKRVENTAKRKL • • • • •
IRDCEDPNNFSVSTLSPSGK 545
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ŏ	631	LTDPVPNPNPHESKPWYYDSLSRGEAEDMLMRIPRDGAFLIRKREGSDSYAI-TFRARGK 689
¥	546	LKSKAEEDV 556
ğ	690	**
Ŋ	557	ESGEDAGKKAASVEEG 595
ъ	750	NSLYDVSRMYVDPSEINPSMPQRTVKALYDYKAKRSDELSFCRGALIHNVSKEPGGWWKG 809
¥	596	DEG
ŏ	810	DYGTRIQQYFPSNYVEDISTADFEELEKQIIEDNPLGSLCRGILDLNTYNVVKAPQGKNQ 869
γ̈	609	KKTMKLSRA 621
ŏ	870	KSFVFILEPKEQGDPPVEFATDRVEELFEWFQSIREITWKIDSKENNMKYWEKNQSIAIE 929
Ϋ́	622	LSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSS 681
ਰ	930	LSDLVVYCKPTSKTKDNLENPDFREIRSFVETKADSIIRQKPVDLLKYNQKGLTRVYPKG 989
Ϋ́	682	QPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGG
ŏ	990	QRVDSSNYDPFRLWLCGSQMVALNEQTADKYMQMNHALFSLNGRTGYVLQPESMR 1044
Ÿ	742	E
ŏ	1045	TEKYDPMPPESQRKILMTLTVKVLGARHLPKLGRSIACPFVEVEICGAEYGNN 1097
Ÿ	798	REQTROYDDNGENPTWEETLVEMVHMPEIALVRELVWDHDPIG-RDFIGQRTLAFSS 853
<del>ŏ</del>	1098	KFKTTVVNDNGLSPIWAPTQEKVTFEIYDPNLAFLRFVVYEEDMFSDPNFLAHATYPIKA 1157
Ϋ́	854	MMPGYRHVYLEGMEEASIFV 873
ŏ	1158	VKSGFRSVPLKNGYSEDIELASLLV 1182
earcl	n con	earch completed: March 28, 2003, 13:52:36 ob time : 66 secs

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OM protein - protein search, using sw model
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1: /SIDSZ/gcgdata/gc
2: /SIDSZ/gcgdata/gc
3: /SIDSZ/gcgdata/gc
4: /SIDSZ/gcgdata/gc
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6379
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/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1991.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1991.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

No.	Score	Match	Match Length DB	DB	ID	Description
1	6092.5	95.5	1239	23	ABB08205	Human lipid metabo
N	4941	77.5	1619	23	AAU77498	Human lipid metabo
ω	3225	50.6	621	23	ABB07493	Human lipid metabo
4	3163	49.6	1014	23	ABB08001	Human lipid metabo
Un.	2343	36.7	787	22	ABG13669	
<b>a</b>	2343	36.7	787	23	AAE14673	Human phosphatidyl
7	1524.5	23.9	997	23	AA017367	Human phospholipas
~	1517	23.8	1096	17	AAW01596	Inositol-1,4,5-tri
	1441	22.6	762	22	AAE10440	Novel human phosph
10	1441	22.6	762	23	AAE14268	Human phospholipas

Human CG121 (or C5	AAE11930	22	340	8.2	522.5	4 4
Phosphatidylinos	AAR91932	17	561	ب ء س	7 C	A 4 A U
protein	AAR94419	S	30.5	0 1	л 00 г	5 ;
•	AAU87209	22	324	9.8	622	42
S. cerevisiae Plc	AAR53732	15	869	10.7	682.5	41
P. patens signal	AAU11620	23	628	10.7	685.5	40
Human polypeptide	AAM43569	22	214	11.2	713	39
Novel central nerv	AAU87352	22	214	11.3	719	38
┍	AAU11619	23	1054		723.5	37
Human phospholipas	AAE13101	22	1809	13.2	840.5	36
Human novel polype	ABG66735	23	1579	13.2	841	35
Amino acid sequenc	ABB07352	23	1898	13.4	852	34
	AAM80177	22	1058	14.1	896.5	ω ω
Human DITHP polype	ABG59980	23	178	14.6	931	32
Human lipid metabo	ABB08204	23	1216	14.7	939	31
Human protein SEQ	AAM79193	22	1216	14.7	939	30
Drosophila melanog	ABB60755	22	1312	14.8	945.5	29
Phospholipase C-ga	AAR90583	17	1290	15.4	985	28
Drosophila melanog	ABB60480	22	1236	15.5	990	27
Human CG121 (or C5	AAE11925	22	567	15.7	1002	26
	ABB08201	23	1093		1006.5	25
Human phospholipas	AAU76817	23	803	17.0	1085.5	24
Human protein sequ	AAB94673	22	677		1106	23
Human protein sequ	AAB95125	22	466		1256.5	22
Rat phospholipase	AAY81394	21	756		1258	21
Human novel polyp	ABG66721	23	794		1277.5	20
Human novel polype	ABG66693	23	794		1277.5	19
Human phospholipas	AAE21821	23	736		1278.5	18
Human phospholipas	AAB47516	22	736		1279.5	17
Amino acid sequenc	AAG63220	22	789		1290	16
Human lipid metabo	ABB07492	23	731		1325.5	15
Human phospholipas	AAE14269	23	785		1372.5	14
Human phospholipas	AAE14270	23	759	21.7	1385.5	13
Human phospholipas	AAU76816	23	762		1432	12
Human lipid metabo	ABB08008	23	828	22.6	1439	11

# ALIGNMENTS

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RESULT 1
ABB08205
Human; LME-5; lipid metabolism enzyme-5; cytostatic; neuroprotective; immunosuppressive; anti-inflammatory; cardiovascular; gene therapy; enzyme therapy; cancer; neurological disorder; autoimmune disorder; inflammatory disorder; cardiovascular disorder.
                                                                                                                                                                                                                                                      04-MAR-2002 (first entry)
                                                                                                                                                                                                                                                                                                                           ABB08205;
                                                                                                                                                                                                                                                                                                                                                                                      ABB08205 standard; Protein; 1239 AA
                                                                                                                                                                                 Human lipid metabolism enzyme-5 (LME-5).
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Homo sapiens.

15-NOV-2001. WO200185956-A2

11-MAY-2001; 2001WO-US15210

11-MAY-2000; 2000US-203511P: 25-MAY-2000; 2000US-207903P: 07-JUN-2000; 2000US-210150P: 23-JUN-2000; 2000US-213392P:

(INCY-) INCYTE GENOMICS INC

PII PRESENTE PER CONTRACTOR OF THE PRESENTATION OF THE PRESENTATIO Ding L, Khan FA, Das D, Reddy R, Yao MG, Nguyen DB, Lu Y, Tribouley CM, A, Gandhi AR, Au-young J, Lal P, Kearney L, Elli , Thornton M;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the invention. The invention relates to novel human in the invention and the CC compounds which identify and encode them. The enzymes of the CC invention have cytostatic, neuroprotective, immunosuppressive, and cardiovascular activity. The polypoptides and CC control of the CC anti-inflammatory, and cardiovascular activity. The polypoptides and CC control of the cytostatic in the diagnosis, treatment and prevention CC cardiovascular disorders, and in the diagnosis, treatment and prevention CC cardiovascular disorders, and in the assessment of the effects of CC exogenous compounds on the expression of nucleic acid and amino acid conformance in the cardiovascular disorders, and in the assessment of the effects of CC exogenous compounds on the expression of nucleic acid and amino acid compounds that modulate the activity of LME. Polynucleotides encoding CC in the may be used for somatic or germline gene therapy, to detect and CC quantify gene expression in biopsied tissues in which expression of LME compounds in drug screening techniques. The polypoptide sequences may be used to analyse the proteome of a tissue or cell type. Oligonucleotide conformers derived from polynucleotide sequences and for screening libraries of compounds in drug screening techniques. The polypoptide sequences may be used to analyse the proteome of a tissue or cell type. Oligonucleotide collect single nucleotide polymorphisms.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches 1166;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            detect single nucleotide polymorphisms
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New lipid metabolism enzymes useful for diagnosing, treating and preventing cancer, neurological disorders, autoimmune/inflammatory disorders, and cardiovascular disorders
            481
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               42 MGAMQEGMQMYKLRGGSKGLVRFYYLDEHRSCIRWRPSRKNEKAKISIDSIQEVSEGROS 101
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ATTLPSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKR
                    ATTLPSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKR
                                                                             KILFKDVIETINKYAFIKNEYFVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSED
                                                                                                                  KILFKDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSED
                                                                                                                                                        SHYFITSSHNTYLYGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTS
                                                                                                                                                                                 SHYFITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTS
                                                                                                                                                                                                                                       MAGVTLESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPL
                                                                                                                                                                                                                                                              MAGYTLESCQDIIEQFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPL 328
                                                                                                                                                                                                                                                                                                                    ALQEADTDDHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQK
                                                                                                                                                                                                                                                                                                                                           ---EADTDDHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQK 268
                                                                                                                                                                                                                                                                                                                                                                                                                            RORTRDQYPWAPIGOCRPRDRPLGCSPWGGLSFAGSHTGEVAGORVEWLKQTFDEADKNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EVFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLAR 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MGAMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRKNEKAKISIDSIQEVSEGRQS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sequence represents a novel human lipid metabolism enzyme (LME-5) invention. The invention relates to novel human LME's, and the
                                                                                                                                                                                                                                                                                                                                                                                                   DGSLSTGEVLQLLHKLNVNLPRQRVKQMFRVAGHAWLEQGKLACSQDRALVEVPMGTQGL
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Pred. No. 0;
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                                                                                                                              Human; lipid metabolism enzyme; LAM-6; immune system disorder; neurological disorder; developmental disorder; cancer; nootrop cell proliferative disorder; immunomodulator; neuroprotective;
                                                                                                                                                                                                                                                                                                                                                     1201
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                                                                                                                        cytostatic; enzyme.
                                                                                                                                                                                             Human lipid metabolism
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                                                                                                                                                                                                                                                                                                                                                               GSPAAASAWTVSPRVLVLVALYPWHCLRGTLLPWLACGP 1207
                                                                                                                                                                                                                                                                                                                                                                                                    ERSPRWPEGACROPGALOGEMSALFAOKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAGP
                                                                                                                                                                                                                                                                                                                                                                                                                   ERSPRWPEGACRQPGALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAGP 1168
                                                                                                                                                                                                                                                                                                                                                                                                                                                          RQQPRARADSLGAPCCGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSPDSPGIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RQQPRARADSLGAPCCGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMSSDSSSPDSPGIP 1108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VAEKSPVRVRPPRVLDGPGPAGMAATCMKCVVGSCAGVNTGGLQRERPPSPGPASRQAAI 1080
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PTKSQKPGRRGFPELVLGTRDTGSKGVADDVVPPGPGPAPEAPAQEGPGSGSPRGKAPAA 988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ASIFVHVAVSDISGKVKQALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASA
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                                                                                                                                                                                            enzyme,
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08-SEP-2000;
15-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          polynucleotide sequences encoding them. The LMM polypeptides, polynucleotides, agonists and antagonists are useful for diagnosing, treating or preventing disorders associated with aberrant expression of LMM, particularly immune system disorders (e.g. acquired immunodefictency syndrome (ALDS), thymic hypoplasia, anaemia, asthma or Crohn's disease), neurological disorders (e.g. epilepsy, Huntington's disease, dementia or Parkinson's disease), developmental disorders (e.g. bown's syndrome) or cell proliferative disorders (e.g. bown's syndrome) or cell proliferative disorders (e.g. bown's syndrome) are concerns including adenocarcinoma, leukaemia, lymphoma, melanoma, myeloma or sarcoma). The present sequence represents human LMM-6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Griffin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (INCY-)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 50; Page 113-117; 122pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New lipid metabolism enzymes, useful for diagnosing, treating or preventing immune system disorders (e.g. Crohn's disease), neurological disorders (e.g. Parkinson's disease), or cell proliferative disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         metabolism enzymes (LMM) designated LMM-1 to LMM-6, and the
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LRGVAVPP------LTAVSLPCPVERCMGAMQEGMQMVKLRGGSKGLVRFYYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LPGPALPPEDPGPDPESRWLFLSANILPV-VERCMGAMQEGMQMVKLRGGSKGLVRFYYL 67
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                                                                                                               LLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDM 354
                                                                                                                                                                                                                                                                                                                                                                                    SLDLYSTSSEVARTWYTGLRYLMAGISDEDSLARRQRTRDQ------
                                                                                                                                                                               STRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSKG
                                                                                                                                                                                                                                                           QMFR-----EADTDDHQGTLGFEEFCAFYKMM 234
                                                                                                                                                                                                                                                                                         PWGGLSFAGSHTGEVAGQRVEWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVK 699
                                                                                                                                                                                                                                                                                                                                                       SLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQYPWAPIGQCRPRDRPLGCS
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 IENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKKLPANIS
                                 YAWYLQAGCRCVEYDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILS 414
                                                                                                LLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDM
                                                                                                                                                              STRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSKG
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; 2000US-231370P.
; 2000US-233212P.
; 2000US-236885P.
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84.2%;
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Pred. No. 0;
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07-JUL-2000; 07-JUL-2000;

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                                                                                                                                                                Lipid metabolism molecule; LMM; cytostatic; nootropic; neuroprotective; anticonvulsant; immunosuppressive; anti-inflammatory; dermatological; cardiovascular; antiHIV; antiemetic; antiallergic; hypertensive; human;
                                                                                                                                                                                                                       Human lipid metabolism molecule (LMM) polypeptide (ID:
                                                                                                                                                                                                                                                                                                         ABB07493 standard; Protein; 621 AA.
                                                                                                                                                                                                                                                                                                                                                                              1600 RVRPCVSWTAPGLLG 1614
                                                                                                                                                                                                                                                  23-APR-2002
                                                                                                                                                                                                                                                                             ABB07493;
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                                                                                                                         Homo sapiens.
                                                                                                                                                    cancer; gene therapy; protein therapy.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AVSDISGKVKQALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRTLRRTASAPTKSQKP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention provides human lipid metabolism molecule (LMM) polypeptides C and polynucleotides. The LMM polypeptides can be expressed by standard CC recombinant methodology. The LMM polypeptides are useful for diagnosing C or treating a condition or disease associated with the expression of LMM. C or screening for compounds that specifically bind to or modulate the CC activity or expression of LMM. They are also used to generate antibodies are she toxicity of test compounds. The LMM polypeptides, CC modulators and antibodies are specifically useful for diagnosing, CC treating or preventing cancers (e.g. adenocarcinoma, leukemia, lymphoma, CC melanoma or sarcoma), neurological disorders (e.g. epilepsy, stroke, CC crebral neoplasms, Alzheimer's disease or Pick's disease), autoimune/CC inflammatory disorders (e.g. ADS, Addison's disease, allergies, asthma, CC crebral neoplasms, astrointestinal disorders (e.g. dysphagia, peptide CC esophagitis, gastritis, gastric carcinoma, anorexia or nausea), skin cd disorders (e.g. hypertension, arterial dissections, vascular tumours, or thrombolveis). The present commence represents a human raw alternation.
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Best Local S
Matches 614
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21-JUL-2000;
26-JUL-2000;
04-AUG-2000;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 1; Page 112-113; 128pp; English.
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                                                                                                                                                                                                                                                                 YLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSKGLLGIDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCS
                                 AGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCS
                                                                                                                FTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWVLQ
                                                                                                                                                    FTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWVLQ
                                                                                                                                                                                                                                                                                                                                                                                    GDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMSTRRDL
                                                                                                                                                                                                                                                                                                                                                   GDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMSTRRDL
                                                                                                                                                                                                                                   YLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSKGLLGIDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LVRFYYLDEHRSCIRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRYPDGSFDPNCCFSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LVRFYYLDEHRSCIRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRYPDGSFDPNCCFSI 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MAPPTAGPLPGPALPPEDPGPDPESRWLFLSANILPVVERCMGAMQEGMQMVKLRGGSKG
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DB; ABA94696.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INCYTE GENOMICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                621 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
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; 2000US-220046P.
; 2000US-220739P.
; 2000US-222824P.
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Pred. No. 1.2e-241;
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Khan FA, Lu Y, Yao
l P, Ramkumar J, Ng
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nguyen DB,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 621;
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B, Baugn MR;
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                 The invention relates to human lipid metabolism enzymes (LMEs) and encoding polynucleotides. The LMEs can be expressed by standard recombinant technology. The LME polypeptides, polynucleotides and modulators may be used in the prevention, diagnosis and treatment of diseases associated with inappropriate LME expression such as cancer (e.g. myeloma, sarcoma and breast cancer), neurological disorders (e.g. myeloma, sarcoma and breast cancer), neurological infections (e.g. Creutzfeld-Jakob disease and Acquired Immune deficiency syndrome (AIDS)) and/or cardiovascular disorders (e.g. cardiomyopathy, angina pectoris and mittal valve prolapse). The present sequence represents
                                                                                                                                                                                                                 Lipid Metabolism Enzymes and nucleic acids, useful for preventing, diagnosing and treating e.g. cancer, Alzheimer's disease and Creutzfeld-Jakob disease -
                                                                                                                                                                                       Claim 1; Page 110-113; 127pp; English.
                                                                                                                                                                                                                                                                                   N-PSDB; ABL60537.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                06-OCT-2000;
13-OCT-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; lipid metabolism enzyme; LME; cytostatic; neuroprotective; noottopic; cerebroprotective; antiparkinsonian; antialzheimers; v antisclerotic; antimicrobial; anti-AIDS; cardiovascular; antiangi
                                                                                                                                                                                                                                                                                                                                                                                       (INCY-) INCYTE GENOMICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                  02-NOV-2000;
08-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            05-OCT-2001;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11-APR-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gene therapy; protein therapy;
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                                                                                                                                                                                                                                                                                                                             Tribouley CM;
                                                                                                                                                                                                                                                                                                                                              Yao MG,
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); 2000US-240616P.

); 2000US-245719P.

); 2000US-247503P.

); 2000US-249503P.
                                                                                                                                                                                                                                                                                                                                                         Arvizu C,
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Y,
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Elliott VS, Thangavelu
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MAGYTLESCODITEOFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPL 328
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                                                                                                                                                                                                                                                                                                                                      LSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSS
                                                                                                                                                                                                                                                                                                                                                                                                                                 QVESFIRKKLESLLKESQIRDKEDPDSFTVRALLKATHEGLNAHLKQSPDVKESGK----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CNYYIASSHNTYLTGDQLLSQSKVDMYARVLQEGCRCVEVDCWDGPDGEPVVHHGYTLTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MFQEADTDENQGTLTFEEFCVFYKMMSLRRDLYLLLLSYSDKKDHLTVEELAQFLKVEQK
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                                                                                                                                                                                                                                                             YRVDSSNYNPQPFWNAGCQMVALNYQSEGRWLQLNRAKFSANGGCGYVLKPGCMCQGVFN 741
                                                                                                                                                                                                                                                                                                                                                                       -KSHGRSLMTNFGKHKKTTKSRSKSYSTDDEEDTQQSTGKEGGQLYRLGRRKTMKLCRE
                                                                                                                                                                                                                                                                                                                                                                                                  SRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQDS---PGGQSRGATRQKKTMKLSRA 621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                RVENTAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKS--KAEEDV-ESGEDAGA 564
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          {\tt LMAGISDEDSLAKRQRTHDQWVKQTFEEADKNGDGLLNIEEIHQLMHKLNVNLPRRKVRQ}
                                                                                                                                        RVVDDNGFNPTWEETLVFMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHV 861
                                                                                                                                                                                                              PNSEDPLPGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQT 801
SSENNS--HYVRKRSIGDRILRRTASAPAKGRKKSKMGFQEMV-EIKDSVSEATRD 964
                             SLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPGRRGFPELVLGTRDTGSKGVAD 957
                                                                                         YLEGMEEASIFVHVAVSDISG-----
                                                                                                                                                                                  PFSGDPLPANPKKQLILKVISGQQLPKPPDSMFGDRGEIIDPFVEVEIIGLPVDCCKDQT
                                                            YLEGLTEASIFVHITINEIYGKWSPLILNPSYTILHFLGATKNRQLQGLKGLFNKNPRHS 911
                                                                                                                      RVVDDNGFNPVWEETLTFTVHMPEIALVRFLVWDHDPIGRDFVGQRTVTFSSLVPGYRHV 851
                                                                                                                                                                                                                                                                                                           LSDLVVYTNSVAAQDI-VDDGTTGNVLSFSETRAHQVVQQKSEQFMIYNQKQLTRIYPSA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 3163;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1.7e-236;
                                                                                           -----KVKQALGLKGLFLRGPKPG 901
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GENERAL SECTION OF SEC
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food supplement; medical ir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABG13669 standard; Protein; 787 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess biodiversity -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      31-MAR-2000;
23-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30-MAR-2001; 2001WO-US08631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11-OCT-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 20; SEQ ID No 44028; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2001-639362/73.
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2000US-0649167
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imaging; diagnostic; genetic disorder.
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cc polyperide (II) sequences. (I) is useful as hybridisation probes, cc polyperide (II) sequences. (I) is useful as hybridisation probes, cc polymerase chain reaction (PCR) primers, oligomers, and for chromosome cand gene mapping, and in recombinant production of (II). The crowdisc are also used in diagnostics as expressed sequence tags (C for identifying expressed genes. (I) is useful in gene therapy techniques (I). (II) is useful for generating antibodies against it, detecting or cquantitating a polypeptide in tissue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical cd imaging of sites expressing (II). (I) and (II) are useful for treating cd disorders involving aberrant protein expression on biological activity. C diagnostics, forensics, gene mapping, identification of mutations cresponsible for genetic disorders or other traits to assess biodiversity and composition acid sequences. ABG00010-ABG30377 represent novel human cd diagnostic amino acid sequences of the invention. C diagnostic amino acid sequences of the invention of the printed content of the sequence of the invention. The sequence data for this patent did not appear in the printed content of the product of the product of the product of the printed content of the printed The invention relates to isolated polynucleotide (I) and polypeptide (II) sequences. (I) is useful as hybridisation probes.

Sequence 787 AA;

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                                                                                                                     Query Match
                                                                                                      Best Local
                                       239 DLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSKGLLGI 298
1 DLYLLLLSYSDKKDHLTVEELAQFLKVEQKMNNVTTDYCLDIIKKFEVSEENKVKNVLGI 60
                                                                                                      Similarity
                                                                              36.7%; Score 2343; DB 22; ilarity 61.4%; Pred. No. 6.4e-173; Conservative 107; Mismatches 145;
                                                                                    Indels 36;
                                                                                                                            Length
                                                                                    Gaps
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QY 359 LQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENH 418

EGFTNFMRSPACDIFNPLHHEVYQDMDQPLCNYYIASSHNTYLTGDQLLSQSKVDMYARV 120 DGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLVGDQLMSQSRVDMYAWV 358

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RESULT 5 ABG13669

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RESULT 6
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                                                                                                                                                                                                                                                          cns disorder; Parkinson's disease; dementia; COPD; protein therapy; chronic obstructive pulmonary disease; gene therapy; vaccine.
žhu Z;
                                                                                                                                                         04-APR-2002
                                                                                                                                                                                            VO200226996-A2
                                                                                                                                                                                                                                                                                                   HIMMAN; phosphatidylinositol-specific phospholipase C-like enzyme;
PI-PLC-like enzyme; chromosome 3; asthma; cancer; central nervous
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAE14673 standard; Protein;
                                      FARB ) BAYER AG
                                                                           7-SEP-2000; 2000US-235552P
                                                                                                                                                                                                                                 iomo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                          26-JUL-2002 (first entry)
                                                                                                            4-SEP-2001; 2001WO-EP11012
                                                                                                                                                                                                                                                                                                                                                          uman phosphatidylinositol-specific phospholipase C-like enzyme.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  713 GRKKSKMGFQEMV-EIKDSVSEATRD 737
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOKPGRRGFPELVLGTRDTGSKGVAD 957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SYTILHFLGATKNRQLQGLKGLFNKNPRHSSSENNS--HYVRKRSIGDRILRRTASAPAK 712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----KVKQALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTK 931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LVWDHDPIGRDFVGQRTVTFSSLVPGYRHVYLEGLTEASIFVHITINEIYGKWSPLILNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEGMEEASIFVHVAVSDISG------
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     {\tt MMQLNRAKFKANGNCGYVLKPQQMCKGTFNPFSGDPLPANPKKQLILKVISGQQLPKPPD}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SMFGDRGEIIDPFVEVEIIGLPVDCCKDQTRVVDDNGFNPVWEETLTFTVHMPEIALVRF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGR 711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EEDTQQSTGKEGGQLYRLGRRRKTMKLCRELSDLVVYTNSVAAQDI-VDDGTTGNVLSFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GDEGQDS---PGGQSRGATRQKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFS 651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RALLKATHEGLNAHLKQSPDVKESGK-----KSHGRSLMTNFGKHKKTTKSRSKSYSTDD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STLSPSGKLGRKS--KAEEDV-ESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEE 594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EGEVSDEDSADEIEDECKFKLHYSNGTTEHQVESFIRKKLESLLKESQIRDKEDPDSFTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EGEVSDEDSADEIDDDCKL-LNGDASTNRKRVENTAKRKIDSLIKESKIRDCEDPNNFSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CSIQQQRKIAQYLKGIFGDKLDLSSYDTGECKQLPSPQSLKGKILVKGKKLPYHLGDDAE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          787
                                                                                                                                                                                                                                                                                                   cancer; central nervous system;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   474
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Matches Query Match

458;

Conservative 107; Mismatches 145; 36.7%; Score 2343; 61.4%; Pred. No. 6

Indels Length 787;

9;

Score 2343; DB 23; Pred. No. 6.4e-173;

Local

Similarity

Sequence

787 AA;

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Ct treatment of diseases associated with enzyme dysfunction,
Ce e.g. asthma, cancer, central nervous system (CNS) disorder (e.g.
CC Parkinson's disease, dementia) and chronic obstructive pulmonary disease
CC (COPD). The polynucleotide and polypeptide may be used to treat
CC disorders associated with decreased PI-PLC-like enzyme expression by
CC rectifying mutations or deletions in a patient's genome that affect the
CC activity of PI-PLC-like enzymes, by expressing inactive proteins or to
CC supplement the patients own production of PI-PLC-like enzymes.
CC The polynucleotide and its complements may also be used
CC as DNA probes in diagnostic assays to detect and quantitate the
CC presence of similar nucleic acids in samples. The PI-PLC-like enzymes
CC and in assays to identify modulators of PI-PLC-like enzymes
CC and in assays to identify modulators of PI-PLC-like enzyme
CC expression and activity. The anti-PI-PLC-like enzyme antibodies and
CC antagonists may be used to down-regulate expression and activity of
CC PI-PLC-like enzyme in samples. The present sequence is human
CC phosphatidylinositol-specific phospholipase C-like enzyme.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The invention relates to polynucleotide encoding human phosphatidylinositol-specific phospholipase C-like enzyme (PI-PLC-like enzyme). Human PI-PLC-like enzyme gene is located chromosome 3. The PI-PLC-like enzyme polynucleotide may be used in the prevention, diagnosis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 25; Fig 2; 125pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Isolated polynucleotides encoding human phosphatidylinositol-specific phospholipase C-like enzymes, useful for preventing, diagnosing and treating e.g. asthma, cancer, a CNS disorder or chronic obstructive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    pulmonary disease -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2002-372128/40.
N-PSDB; AAD31081.
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712 MIQLNRAKFSANGGCGYVLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLPKPRD

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RESULT 7
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            The present invention relates to a method for the in vitro diagnosis of endometriosis by determining the amount of gene product from at least one specific gene in a patient sample and comparing this with the amount of gene product in a control sample. A reduced level is indicative of endometriosis. The gene products may be fibronectin, p27, reticulocalbin, aldehyde dehydrogenase 6, gravin, phospholipase C epsilon, elastin, insulin-like growth factor binding protein-2, alpha-2 type IV collagen) transmembrane receptor PTK7, collagen type XVIII alpha 1, platelet derived growth factor receptor alpha, laminin M chain, subtilisin like protein PACE4 or nidogen. The method is useful for initial diagnosis of endometriosis, and also for monitoring progress and treatment of the disease. The present sequence is human phospholipase C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human; endometriosis; DNA chip; fibronectin; p27; reticulocalbin; aldehyde dehydrogenase 6; gravin; phospholipase C epsilon; elastin; insulin-like growth factor binding protein-2; alpha-2 type IV collagen; transmembrane receptor PTK7; collagen type XVIII alpha 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human phospholipase C epsilon
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                                                                                                                                                                                                                                                                                                                                            WPI;
                                                                                                                                                                                                                                                                                                                                                                            Hess-stumpp H, Haend Regidor P, Scotti S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               subtilisin like protein PACE4; nidogen.
treatment of the disease. The present sequence is epsilon.
                                                                                                                                                                                                                                          Claim 1; Page 20-21; 21pp;
                                                                                                                                                                                                                                                                          fibronectin gene
                                                                                                                                                                                                                                                                                        In vitro diagnosis and monitoring of endometriosis, comprises detecting reduced expression of specific gene products, e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                            (SCHD ) SCHERING AG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              25-SEP-2000; 2000DE-1048633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21-AUG-2001; 2001EP-0250300
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 796 LREAIDMRENMQNAIVSIKELCGLPPI-ASLKQCLLTLSSRLITSDNTPSVSLVMKDSFP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QSEVFQRYPDGSFD---PNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CISFMQAGCELKKVRPNSRIYNRFFTLDTDLQALRWEPSKKDLEKAKLDISAIKEIRLGK 72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TLESCODIIEOFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYF 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LDFMEGNQNTPRFMWLKTVFEAADVDGNGIMLEDTSVELIKQLNPTLKEAKIRLKFKEIQ 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      348;
                                                                                                                                                                                                                                                                                                                                                                    ATHDIE--MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYN 690
                                                                                                                                                                                                                                                                                                                                                                                                                                       VGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSV 632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PSPQMLKGKILVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENT
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                                                                                                                                                                                                                                                                                                      PQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGV--FNPNSEDPL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLV 572
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ITSSHNTYLVGDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILF 392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TEDICLDIIRRYELSEEGRQKGFLAIDGFTQYLLSSECDIFDPEQKKVAQDMTQPLSHYY
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                                     KPGSLD---
                                                                   DIMEHVTLEVHIAITNRSGGGKAQKRSLSVRMGKKVREYTMLRNIGLKTIDDIFKIAVHP
                                                                                                  --MEEASIFVHVAVSDISG-----
                                                                                                                                       DNPIFDETFEFQVNLPELAMIRFVVLDDDYIGDEFIGQYTIPFECLQPGYRHVPLRSFVG
                                                                                                                                                                    FNPTWEETLVFMVHMPEIALVRFLVWDHDPIGRDFIGQRTLAFSSMMPGYRHVYLEG---
                                                                                                                                                                                                                                                                      PGVSPLALHIKIISGQNFPKPKGACA--KGDVIDPYVCIEIHGIPADCSEQRTKTVQQNS
                                                                                                                                                                                                                                     PGQLKKQLVLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNG
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                                     --SHAAGRPPARPSVSQRILRRTASAPTKSQKPG-----RRGFP
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Pred. No. 4.1e-109;
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Structural gene encoding protein capable of binding with inositiol-1,4,5-tri:phosphate - useful for creation of drugs and diagnostics for, e.g. circulatory organ diseases, inflammatory
                  350
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(MITK ) MITSUI TOATSU CHEM INC
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                                                                                                                                                                                                                                                                                                                                                                                                                                         41 CMGAMQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRWRPSRKN-EKAKISIDSIQEVSEGR
TEDMCLDIIRRYELSEDGRQKGFLAIDGFTQYLLSPECDIFDPEQKKVAQDMTQPLSHYY
                          TLESCODIIEQFEPCPENKSKGLLGIDGFTNYTHSPAGDIFNPEHHHVHQDMTQPLSHYF
                                                                                                    KSKEKLTTRVTEEEFCEAFCELCTRPEVYFLLVQISKNKEYLDANDLMLFLEVEQGVTHV
                                                                                                                                                                                                                                                                                                          NTETFRN--NGLADQICEDCAFSILHGENYESLDLVANSADVANIWVSGLRYLVSRSKQP
                                                                                                                                                                                                                                                                                                                                                                                                            CISFMQAGCELKKVRPNSRIYNRFFTLDTDLQALRWEPSKKDLEKAKLDISAIKEIRLGK 171
                                                                                                                                                                                                      LDFMEGNQNTPRFMWLKTVFEAADVDGNGIMLEDTSVELIKQLNPTLKESKIRLKFKEIQ
                                                                                                                                 -DSLARRORT-RDOWLKOTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREAD
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AAE10440;

10-DEC-2001 (first entry)

Novel human phospholipase protein #7.

drug screening; biological disorder; mental disorder; medical disorder; gene therapy. Human; novel human protein; NHP; phospholipase protein; phospholipid; phospholipase C delta-4; cell activation; signal transduction; cancer

Homo sapiens.

WO200168871-A2

20-SEP-2001

13-MAR-2001; 2001WO-US07994.

13-MAR-2000; 2000US-0188885

15-MAR-2000; 2000US-0189693

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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            comprising NHP cDNA is useful for screening collections of genetic material from patients having a particular medical condition, which is used to identify mutations associated with a particular disease and also as diagnostic or prognostic assay. NHP nucleotide sequences are useful for drug screening. Nucleotide construct encoding NHP products are used in gene therapy for modulating NHP expression and to produce genetically engineered host cells to express NHP products in vivo. The NHP sequences are useful for generating antibodies, as reagents in diagnostic assays, for identifying other cellular gene products related to the product of the number of the products related to the product of the number of the products related to the product of the number of the products related to the product of the prod
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       to NHP and as reagents in assays for screening for compounds that are useful in the treatment of mental, biological or medical disorders and diseases. They can be used to therapeutically augment the efficacy of chemotherapeutic agents used in the treatment of breast or prostate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present sequence is novel human protein (NHP), phospholipase
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GDQLCGQSSVEGYIRALKRGCRCVEVDVWDGPSGEPVVYHGHTLTSRILFKDVVATVAQY
                                                                 GDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKY 402
                                                                                                                                RYEPSDSGKLRHVLSMDGFLSYLCSKDGDIFNPACLPIYQDMTQPLNHYFICSSHNTYLV
                                                                                                                                                                  QFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            22.6%; Score 1441; DB 22; 38.3%; Pred. No. 8.5e-103;
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New phospholipase C delta 5 polypeptides, useful for treating deep vein

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Query Match
Best Local
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COMVALNYQSEGRMLQLNRAKFSANGGCGYYLKPGCM--CQGYFNPNSEDPLPGQLKKQL 756
                                                                          CQMVAMNMQTAGLEMDICDGHFRQNGGCGYVLKPDFLRDIQSSFHP--EKPISPFKAQTL
                                                                                                                                                                                KEHYHFYEISSFSETKAKRLIKEAGNEFVQHNTWQLSRVYPSGLRTDSSNYNPQELWNAG
                                                                                                                                                                                                                  MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAG
                                                                                                                                                                                                                                                                                                  SKPI-
                                                                                                                                                                                                                                                                                                                                     GSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA----THDIE
                                                                                                                                                                                                                                                                                                                                                                                                                                     ESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKK 582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIK 522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AFIKNEYPVILSIENHCSVIQQKKMAQYLTDIIGDKLDLSSVSSEDATTLPSPQMLKGKI 462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GDQLCGQSSVEGY IRALKRGCRCVEVDVWDGPSGEPVVYHGHTLTSRILFKDVVATVAQY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GDQLMSQSRVDMYAWYLQAGCRCVEYDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKY 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RYEPSDSGKLRHVLSMDGFLSYLCSKDGDIFNPACLPIYQDMTQPLNHYFICSSHNTYLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTL 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LVKGKKL--TLEEDL---EYEEEEAEPELEE-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AFQTSDYPVILSLETHCSWEQQQTMARHLTEILGEQLLSTTLDGVLPTQLPSPEELRRKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EGEEFVQFYKALTKRAEVQELFESFSADGQKLTLLEFLDFLQEEQKERDCTSELALELID
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QERLDQWLSDWFQRGDKNQDGKMSFQEVQRLLHLMNVEMDQEYAFSLFQAADT-SQSGTL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         762
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22.6%; Score 1441; DB 23; 38.3%; Pred. No. 8.5e-103;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      145;
                                                                                                                                                                                                                                                                                                                                                                                             ----EQNLQNKD----
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                                                                                                                                                                                                                                                                                     -LCPALSSLVIYLKSVSFRSFTH--S
                                                                                                                                                                                                                                                                                                                                                                                        -----KKKK 484
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Best Local Similarity
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Conservative

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Mismatches

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1.4e-102; DB 23; Sequence

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                              encoding polynucleotides. The LMEs can be expressed by standard recombinant technology. The LME polypeptides, polynucleotides and modulators may be used in the prevention, diagnosis and treatment of diseases associated with inappropriate LME expression such as cancer (e.g. myeloma, sarcoma and breast cancer), neurological disorders (e.g. Parkinson's, Alzheimer's and multiple sclerosis), microbial infections (e.g. Creutzfeld-Jakob disease and Acquired Immune deficiency syndrome (AIDS)) and/or cardiovascular disorders (e.g. cardiomyopathy, angina pectoris and mitral valve prolapse). The present sequence represents
                                                                                                                                                                                                                                                                                                                                                                                                                                           06-OCT-2000;
13-OCT-2000;
02-NOV-2000;
                                                                                                                                                                   The invention relates to human lipid metabolism enzymes (LMEs)
                                                                                                                                                                                                                         Lipid Metabolism Enzymes and nucleic acids, useful for preventing, diagnosing and treating e.g. cancer, Alzheimer's disease and Creutzfeld-Jakob disease -
                                                                                                                                                                                               Claim 1; Page 119–121; 127pp; English.
                                                                                                                                                                                                                                                                                                                                                         Harland L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      05-OCT-2001; 2001WO-US31302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human; lipid metabolism enzyme; LME; cytostatic; neuroprotective; nootropic; cerebroprotective; antiparkinsonian; antialzheimers; vaccine; antisclerotic; antimicrobial; anti-AIDS; cardiovascular; antianginal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              W0200229036-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    therapy; protein therapy; enzyme
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                           LME-8
                                                                                                                                                                                                                                                                                                                                            Yao MG,
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2000US-240616P.
2000US-245719P.
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2000US-249503P.
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Elliott VS,
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iott VS, Thangavelu K,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EQGFTIVFHG-RRSNLDLMANSVEEAQIWMRGLQLLVDLVTSMD----HQERLDQWLSDW 189
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LTKRAEVQELFESFSADGQKLTLLEFLDFLQEEQKERDCTSELALELIDRYEPSDSGKLR
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                                                                                                                                                                                                                                                                          ALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL---EG--MEEASIFVHVAVSDI 880
                                                                                                                                                                                                                                                                                                               PKYDKT---KEGSIVDPLYKYQIFGVRLDTARQETNYVENNGFNPYWGQTLCFRYLVPEL
                                                                                                                                                                                                                                                                                                                                              PKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEETLVFMVHMPEI
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                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                            825
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Human; phospholipase C; PLC; phospholipase C 16816; brain disorder; cellular proliferative disorder; differentiative disorder; prion disease; glial disorder; cerebrovascular disease; acute meningitis; cirrhosis; demyelinating disease; degenerative disease; heart disorder; rickets; ischaemic heart disease; myocardial disease; neoplastic heart disease; racturar disease; inflammatory disease; bone metabolism disorder; enzyme; chronic renal disease; haematopoietic disorder; autoimmune disease; arthritis; systemic lupus crythematosus; Sjogren's syndrome; psoriasis; crohn's disease; uveitis; atopic allergy; balloon angioplasty;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    coronary artery bypass graft surgery.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
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Human phospholipase C 16816 polypeptide.

key Location/Qualifiers Misc-difference 254

Misc-difference 661 /note= "Encoded by CGC" 'note= "Encoded by

WO200206302-A2

24-JAN-2002

17-JUL-2001; 2001WO-US22760

17-JUL-2000; 2000US-218675P

(MILL-) MILLENNIUM PHARM INC

Meyers R, Rudolph-Owen L, Tsai FY;

N-PSDB; ABK10063. 2002-188535/24.

New human phospholipase C protein for diagnosing and treating disorders e.g. Alzheimer's disease, heart failure, cancer, psoriasis, Sjogren's disease, and to identify modulators for therapeutic use

Claim 4; Fig 1; 129pp; English.

The invention relates to human phospholipase C (PLC) polypeptides 16816 CC and 16839. The polypeptides can be used in the treatment and diagnosis of CC various disorders including cellular proliferative and/or differentiative CC disorders (e.g. cerebral oedema), cerebrovascular diseases (e.g. cischaemia and human proposed cerebral oedema), cerebrovascular diseases (e.g. cc cischaemia and hypertensive encephalopathy), infections (e.g. acute meningitis and prion diseases), demyelinating diseases (e.g. multiple CC sclerosis), degenerative diseases (e.g. Alzheimer's disease), heart disease; (e.g. mycoardial infarction), myocardial disease (e.g. myocardis), neoplastic cc myocardial infarction), myocardial disease (e.g. myocardis), cerebrovascular disease (e.g. angina pectoris), vascular diseases (e.g. chonic crenal disease, hematopoietic diseases (e.g. Kawasaki syndrome), bone metabolism disorders (e.g. osteoporosis), cirrhosis, rickets, chronic crenal disease, hematopoietic disease; uveitis, atopic allergy, and cc syndrome, psoriasis, Crohn's disease, uveitis, atopic allergy, and cc angioplasty and related techniques) and vascular disease (e.g. balloon coronary artery bypass graft surgery). This sequence represents human coronary artery bypass graft surgery). This sequence represents human phospholipase C 16816.

Sequence 762 AA;

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Matches
              Query Match
Best Local
               Similarity
Conservative 145; Mismatches
   22.4%; Score 1432; DB 23; 38.2%; Pred. No. 4.2e-102; tive 145; Mismatches 254;
   Indels
                             Length
    134;
    Gaps
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В ð 45 MQEGMQMVKLRGGSKGLVRFYYLDEHRSCIRW--RPSRKNEKAKISIDSIQEVSEGRQSE 102 18 MQEGMPMRKVRSKSWKKLRYFRLQNDGMTV-WHARQARGSAKPSFSISDVETIRNGHDSE 76

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AAE14270
                 vaccine;
                                                                                                                                                                                   07-MAR-2002 (first entry)
                                                                                                                                                                                                                                                            AE14270 standard; Protein;
                                                                                                                                                                                                                              AE14270;
                                                                                                                                                                                                                                                                                                                                                            747
                                                                                                                                                                                                                                                                                                                                                                                                871
                                 troke; rheumatoid arthritis;
                                                                                                uman; phospholipid C delta 5; PLCD5 protein; deep vein thrombosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              630
                                                       rteriosclerosis;
                                                                                            ngina
                                                                                                                                         uman phospholipase C delta 5 (PLCD5) protein #3.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               523
                                                             ngina pectoris; percutane transluminal coronary angiography; prombo embolic insult; disseminated intravascular coagulation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     431
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           LVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL---EG--MEEAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LIQVISGQQLPKVDKT----KEGSIVDPLVKVQIFGVRLDTARQETNYVENNGFNPYWGQT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEET 816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CQMVAMNMQTAGLEMDICDGHFRQNGGCGYVLKPDFLRDIQSSFHP--EKPISPFKAQTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSEDPLPGQLKKQL 756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEHYHFYEISSFSETKAKRLIKEAGNEFVQHNTWQLSRVYPSGLRTDSSNYNPQELWNAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA----THDIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIK 522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKK 582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LVKGKKL--TLEEDL---EYEEEEAEPELEE-----SELAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AFQTSDYPVILSLETHCSWEQQQTMARHLTEILGEQLLSTTLDGVLPTQLPSPEELRRKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AFIKNEYPVILSIENHCSVIQQKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKI 462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GDQLCGQSSVEGYIRALKRGCRCVEVDVWDGPSGEPVVYHGHTLTSRILFKDVVATVAQY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ESQFETEPEPQ----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RYERSDSGKLRHYLSMDGFLSYLCSKDGDIFNPACLPIYQDMTQPLNHYFICSSHNTYLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLV 342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EGEEFVQFYKALTKRAEVQELFESFSADGQKLTLLEFLDFLQEEQKERDCTSELALELID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QERLDQWLSDWFQRGDKNQDGKMSFQEVQRLLHLMNVEMDQEYAFSLFQAADT-SQSGTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gene
                                                   epilepsy; depression;
                                                                                                                                                                                                                                                                                                                                                        ---GLEG
                                                                                                                                                                                                                                                              759
                                                                                                                                                                                                                                                                                                                                                                                          892
                                                                                                                                                                                                                                                                                                                                                        759
                               immune disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----EQNLQNKD---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ----LCPALSSLVIYLKSVSFRSFTH--S
                                               neurodegenerative
                         chromosome localisation;
                                           disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ---KKKK
                                                                                PTCA;
                                                                                                                                                                                                                                                                                                                                                                                                                       746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  686
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The patent discloses phospholipid C delta 5 (PLCD5) proteins and their corresponding polynucleotides. PLCD5 sequences are useful for treating deep vein thrombosis, instable angine pectoris, percutane transluminal coronary anglography (PTCA), thrombo embolic insult, disseminated intravascular coagulation, arteriosclerosis, epileps, depression, neurodegenerative diseases, stroke, rheumatoid arthritis and immune disorders. PLCD5 sequences are also useful as vaccines for inducing immunological response in a mammal. PLCD5 DNAs are also useful for studies and in gene therapy. The present sequence is PLCD5 protein
   427
                                       463
                                                                            368
                                                                                                                  403
                                                                                                                                                     308
                                                                                                                                                                                         343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 1; Page 48-50; 51pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    angiography, disseminated intravascular coagulation and epilepsy
                                                                                                                                                                                                                              248
                                                                                                                                                                                                                                                                                                       188
                                                                                                                                                                                                                                                                    283
                                                                                                                                                                                                                                                                                                                                                                                133
                                                                                                                                                                                                                                                                                                                                                                                                  163 QRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New phospholipase C deita 5 polypeptides, useful for treating deep vein thrombosis, instable angina pectoris, percutane transluminal coronary
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                                                                                                                                                                                                                                                                                                                                                                                                                                         77 LLRSLAEELPLEQGFTIVFHG-RRSNLDLMANSVEEAQIWMRGLQLLVDLVT---SMDHQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    45 MOEGMOMVKLRGGSKGLVRFYYLDEHRSCIRW--RPSRKNEKAKISIDSIQEVSEGRQSE 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
                         LVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIK 522
                                                                                                                                                               GDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKY
                                                                                                                                                                                                                                                    QFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLV 342
LVKGKKL--TLEEDL---EYEEEEAEPELEE
                                                               AFQTSDYPVILSLETHCSWEQQQTMARHLTEILGEQLLSTTLDGVLPTQLPSPE-LRRKI
                                                                                                  AFIKNEYPVILSIENHCSVIQQKKMAQYLTDIIGDKLDLSSVSSEDATTLPSPQMLKGKI
                                                                                                                                       GDQLCGQSSVEGYIRALKRGCRCVEVDVWDGPSGEPVVYHGHTLTSRILFKDVVATVAQY
                                                                                                                                                                                                                  RYEPSDSGKLRHVLSMDGFLSYLCSKDGDIFNPACLPIYQDMTQPLNHYFICSSHNTYLV
                                                                                                                                                                                                                                                                                                                           GFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIE 282
                                                                                                                                                                                                                                                                                       EGEEFVQFYKALTKRAEVQELFESFSADGQKLTLLEFLDFLQEEQKERDCTSELALELID
                                                                                                                                                                                                                                                                                                                                                                  ERLDHDW----FQRGDKNQDGKMSFQEVQRLLHLMNVEMDQEYAFSLFQAADT-SQSGTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARR 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MQEGMPMRKVRSKSWKKLRYFRLQNDGMTV-WHARQARGSAKPSFSISDVETIRNGHDSE 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2002-034515/04
DB; AAD23723.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       326;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              759 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Duecker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   147;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 1385.5; DB 23; Pred. No. 1.7e-98;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               251;
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Indels 139; Length 759

Gaps

23;

132

187

426

307

밁 Ş Ъ δÃ В Š Д Ωy 밁 δÃ B Ωy 밁 Qy 밁 20 B δÃ Ъ QY 밁 QY 밁 δÃ В Qγ Вb δÃ

24;

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AAE14269
ID AAE14
XX AAE14
XX AAE14
XX AAE14
XX DT 07-MP
XX Humar
XX Humar
KW angir
KW angir
KW strolo
KW vacci
XX Homo
XX Homo
XX WO200
XX WO200
XX WO200
XX WO200
XX WPI;
DR N-PSI
XX New ipt
PT throlo
PT angir
XX The
CC corr
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stroke; rheumatoid arthritis; immune disorder; chromosome localisa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human; phospholipid C delta 5; PLCD5 protein; deep vein thrombosis; angina pectoris; percutane transluminal coronary angiography; PTCA; thrombo embolic insult; disseminated intravascular coagulation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 07-MAR-2002
                                                                                                                                                                                                                                                                                                                                      08-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                      WO200183771-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAE14269 standard;
The patent discloses phospholipid C delta 5 (PLCD5) proteins and their corresponding polynucleotides. PLCD5 sequences are useful for treating deep vein thrombosis, instable angina pectoris, percutane transluminal
                                                                                                                                                                                                                                                                        29-APR-2000; 2000EP-0109318
                                                                                                                                                                                                                                                                                                       27-APR-2001; 2001WO-EP04784
                                                                                                                                                                                                                                                                                                                                                                                                                                 vaccine; gene therapy.
                                                              Claim 1; Page 43-45;
                                                                                            angiography, disseminated intravascular coagulation and epilepsy
                                                                                                                                                                                                                                        (MERE ) MERCK PATENT
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                                                                                                         New phospholipase C delta 5 polypeptides, useful for treating deep vein thrombosis, instable angina pectoris, percutane transluminal coronary
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KEHYHFYEISSFSETKAKRLIKEAGNEFVQHNTWQLSRVYPSGLRTDSSNYYNPQELWNA
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                                                              51pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              coronary angiography (PTCA), thrombo embolic insult, disseminated intravascular coagulation, arteriosclerosis, epilepsy, depression, neurodegenerative diseases, stroke, rheumatoid arthritis and immun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GDQLMSQSRVDMYAWVLQAGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RYEPSDSGKLRHVLSMDGFLSYLCSKDGDIFNPACLPIYQDMTQPLNHYFICSSHNTYLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QFEPCPENKSKGLLGIDGFTNYTRSPAGDIFNPEHHHVHQDMTQPLSHYFITSSHNTYLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LLRSLAEELPLEQGFTIVFHG-RRSNLDLMANSVEEAQIWMRGLQLLVDLVT---SMDHQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VFQRYPDGSFDPNCCFSIYHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARR 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MQEGMPMRKVRSKSWKKLRYFRLQNDGMTV-WHARQARGSAKPSFSISDVETIRNGHDSE 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GDQLCGQSSVEGYIRALKRGCRCVEVDVWDGPSGEPVVYHGHTLTSRILFKDVVATVAQY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EGEEFVQFYKALTKRAEVQELFESFSADGQKLTLLEFLDFLQEEQKERDCTSELALELID
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QRTRDQWLKQTFDEADKNGDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTL
                                                                                                                                                                                                                                                                                                                                                                                                    GSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKSVA----THDIE 638
                                                                                                                                                                                                                                                                                      KEHYHFYEISSFSETKAKRLIKEAGNEFVQHNTWQLSRVYPSGLRTDSSNYYNPQELWNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKK 582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LVKGKKL--TLEEDL---EYEEEEAEPELEE-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LVKGKKLPANISEDAEEGEVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIK 522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AFQTSDYPVILSLETHCSWEQQQTMARHLTEILGEQLLSTTLDGVLPTQLPSPE-LRRKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AFIKNEYPVILSIENHCSVIQOKKMAQYLTDIIGDKLDLSSVSSEDATTLPSPQMLKGKI
                                                        TLCFRVLVPELAMLRFVVMDYDWKSRNDFIGQYTLPWTCMQQGEPAPLAPGQYPSSGCLP 742
                                                                                            TLVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSM----
                                                                                                                                LLNQVISVQQLPKVDKT---KEGSIVDPLVKVQIFGVRLDTARQETNYVENNGFNPYWGQ 682
                                                                                                                                                                        LYLRIISGQQLPKPRDSMLGDRGEIIDPFVEVEIIGLPVDCSREQTRVVDDNGFNPTWEE 815
                                                                                                                                                                                                            GCQMVAMNMQTAGLEMDICDGHFRQNGGCGYVLKPDFLRDIQSSFHP--EKPISPFKAQT
                                                                                                                                                                                                                                              GCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCM--CQGVFNPNSEDPLPGQLKKQ
                                                                                                                                                                                                                                                                                                                        MEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSN-YNPQPFWNA
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-MPGYRHVYL---EG--MEEASIFVHVAVSDISGKVKQALGLKG:|||||:| :| :| ||||::::: ||:||
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Pred. No. 1.9e
48; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                  ------LCPALSSLVIYLKSVSFRSFTH--S
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Query Match
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Matches 317;
                                                                                                                                                                                                                                                                                      and assess the toxicity of test compounds. The LAM polypeptides, modulators and antibodies are specifically useful for diagnosing, treating or preventing cancers (e.g. adenocarcinoma, leukemia, lymphoma, melanoma or sarcoma), neurological disorders (e.g. epilepsy, stroke, for the compound of the compo
                                                                                                                                                                                  disorders (e.g. dermatitis, eczema, or scleroderma), and cardiovascular disorders (e.g. hypertension, arterial dissections, vascular tumours, o thrombolysis). The present sequence represents a human LMM polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention provides human lipid metabolism molecule (LMM) polypeptides and polynucleotides. The LMM polypeptides can be expressed by standard recombinant methodology. The LMM polypeptides are useful for diagnosing or treating a condition or disease associated with the expression of LMM, or screening for compounds that specifically bind to or modulate the activity or expression of LMM. They are also used to generate antibodies
                                                                                                                                                                                                                                                                                esophagitis,
                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Lipid metabolism molecule; LMM; cytostatic; nootropic; neuroprotective; anticonvulsant; immunosuppressive; anti-inflammatory; dermatological; cardiovascular; antiHIV; antiemetic; antiallergic; hypertensive; human;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           \mathcal{C}laim 1; Page 110-112; 128pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cancers, and neurological, autoimmune/Inflammatory, gastrointestinal,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            07-JUL-2000;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABB07492;
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                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YT,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INCYTE GENOMICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gene therapy; protein therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cardiovascular disorders
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andhi AR, Walia NK,
                                                                                                                  731 AA;
        Conservative
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; 2000US-216803P.
; 2000US-218233P.
; 2000US-220046P.
; 2000US-220739P.
; 2000US-222824P.
                                                                                                                                                                                                                                                             gastritis, gastric carcinoma, anorexia or nausea), skin
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                         20.8%; Score 1325.5; DB 23; 36.7%; Pred. No. 7.6e-94;
        144;
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Lal P, F
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Khan FA, 1
     Mismatches
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Ramkumar
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Lu Y, Yao
ar J, Ngu
  234; Indels
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Nguyen DB,
                                                  Length 731;
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                                                                                            ETLVFMVHMPEIALVRFLVWDHDPIGR-DFIGQRTLAFSSMMPGYRHVYL---EG--MEE
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Search completed: March Job time : 90 secs 2003, 13:48:57

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Title:
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Maximum DB seq length: 2000000000
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GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
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/cgn2_6/ptodata/1/ina/5B_COMB.seq:*
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/cgn2_6/ptodata/1/ina/BCOMB.seq:*
/cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
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US-09-280-420-1
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	Sequence 1, Appli Sequence 1, Appli Sequence 1, Appli Sequence 1, Appli Sequence 21, Appli Sequence 80, Appli Sequence 23, Appl Sequence 23, Appl Sequence 23, Appl Sequence 11, Appl Sequence 11, Appl Sequence 12, Appl Sequence 14, Appl Sequence 15, Appl Sequence 15, Appl Sequence 34, Appl Sequence 37, Appl

### RESULT 1 US-08-114-072-1/c ; Sequence 1, Application ; Patent No. 5624823 ; Patent INFORMATION: 밁 Ś US-08-114-072-1 REFERENCE/DOCKET NUMBER: MGP-TELECOMMUNICATION INFORMATION: TELEPHONE: (617) 227-7400 TELEPAX: (617) 227-5941 INFORMATION FOR SEQ ID NO: 1: SEQUENCE CHARACTERISTICS: Matches Query Match Best Local Similarity ZIP: 02109 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: ASCII CORRESPONDENCE ADDRESS: ADDRESSEE: LAHIVE & COCKFIELD STREET: 60 STATE STREET Suite APPLICANT: Sachs, David, APPLICANT: LeGuern, Christian, APPLICANT: Megan, Sykes, APPLICANT: Megan, Sykes, APPLICANT: Blancho, Gilles TITLE OF INVENTION: INTERLEUKIN-10 AND IMMUNOSUPPRESSION NUMBER OF SEQUENCES: 3 3334 CTCCGGAAGCCCCAGCCCAGG 3354 ATTORNEY/AGENT INFORMATION: NAME: Myers, Paul L. REGISTRATION NUMBER: 35,965 CURRENT APPLICATION DATA: US APPLICATION NUMBER: US 1066 CTCCGGAAGCCCCAGCCCAGG 1046 STREET: 60 ST. CITY: Boston STATE: Massac COUNTRY: USA TYPE: STRANDEDNESS: SIN LENGTH: 1365 base pairs TYPE: nucleic acid CLASSIFICATION: FILING DATE: 21; Application US/08114072 Massachusetts Conservative single 435 100.0%; 0.5%; Score 21; 00.0%; Pred. No. US/08/114,072 0; MGP-017 Mismatches 510 DB 1; Length 1365; Indels 0

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PCT-US94-09361-1/c
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NAME: MYSTS, Paul L.
REGISTRATION NUMBER: 35,965
REFERENCE/DOCKET NUMBER: MGP-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows95
SOFTWARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
""" "" "" "" (10./14.6.6 10.21)
             CLASSIFICATION: 435
PRIOR APPLICATION NUMBER: 08/319,887
PILING DATE: 07-0CT-1994
PRIOR APPLICATION NUMBER: 08/261,857
APPLICATION NUMBER: 08/261,857
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APPLICANT: Ebisawa, Takashi
TITLE OF INVENTION: HIGH-AFFINITY MELATONIN
TITLE OF INVENTION: RECEPTORS AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES:
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII (text)
CURRENT APPLICATION DATA:
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                                                                                                                                           APPLICATION NUMBER: FILING DATE: 06-JUI
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ZIP: 02110-2804
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emreet: 225 Franklin Street
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TYPE: nucleic acid
STRANDEDNESS: single
  FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: PCT/US94/09361
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tch 0.5%; Score 21; DB 5; Length 1365; al Similarity 100.0%; Pred. No. 7.3; 21; Conservative 0; Mismatches 0; Indels
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17-JUN-1994
                                                                                                                                           06-JUN-1995
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                                                                                                                                                             US/08/466,103A
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CURRENT APPLICATION NUMBER: US/09/479,195
CUURENT FILING DATE: 2000-01-07
PRIOR APPLICATION NUMBER: US 09/122,527
PRIOR FILING DATE: 1998-07-24
PRIOR APPLICATION NUMBER: US 60/053,565
PRIOR FILING DATE: 1997-07-24
NUMBER OF SEQ ID NOS: 12
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 1
US-09-280-420-1/c
                   RESULT 5
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                                                                                                                                                     Best Local Similarity
Matches 20; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
APPLICANT: Reppert, Steven M.
APPLICANT: Gribkoff, Valentin K.
APPLICANT: Gribkoff, Valentin K.
TITLE OF INVENTION: MELATONIN RECEPTOR-DEFICIENT MICE AND USES THEREOF
FILE REFERENCE: 10217/727002
                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 1, Application US/09479195
Patent No. 6326526
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                                                                                                                                                                                                                                                 OTHER INFORMATION: intron coding sequence between positions 1464 and OTHER INFORMATION: 1465
                                                                                                                                                                                                                                                                                     NAME/KEY: CDS
LOCATION: (1270)...(2328)
                                                                                                                                                                                                                                                                                                                           ORGANISM: Mus musculus FEATURE:
                                                                           1321 CGCCTGGAGCCTGAGTG 1302
                                                                                                       4386 CGCCTGGAGCCTGCTGAGTG 4405
                                                                                                                                                                                                                                                                                                                                                                 TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 2377
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LENGTH: 1062 base pairs
TYPE: nucleic acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE: 617/542-5070
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: Coding Sequence LOCATION: 1...1059
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REGISTRATION NUMBER: 34.
REFERENCE/DOCKET NUMBER:
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100.0%; Pred. No.
ltive 0; Mismatcl
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100.0%; Pred. No.
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; Sequence 1, Application US/09280420
; Patent No. 6037131

GENERAL INFORMATION:

APPLICANT: Reppert, TITLE OF INVENTION:

MELATONIN 1A RECEPTOR GENE

Steven M

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RESULT 6
US-08-749-169A-1
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Best Local Similarity
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APPLICANT: RACIE, Lisa
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INFORMATION FOR SEQ ID NO: 1:
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                                                                                                                                                                                                                                                                                                                                                                                                                  4386 CGCCTGGAGCCTGCTGAGTG 4405
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LENGTH: 2772 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
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CORRESPONDENCE ADDRESS:
                                                                                                                                                                                   APPLICANT: RACIE, Lisa
APPLICANT: LaVALLIE, Edward
APPLICANT: DEROBERTIS, Edward
TITLE OF INVENTION: CHORDIN COMPOSITIONS
NUMBER OF SEQUENCES: 8
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TELEPHONE: 617/542-507
TELEFAX: 617/542-890
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APPLICATION NUMBER:
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ATTORNEY/AGENT INFORMATION:
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                        CORRESPONDENCE ADDRESS:
ADDRESSEE: Genetics Institute, Inc
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OPERATING SYSTEM:
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OTHER INFORMATION: intron
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REFERENCE/DOCKET NUMBER:
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                                                                                                        STATE:
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                                                                                    COUNTRY:
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100.0%; Pred. No. 19;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Mismatches
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                                   US-09-130-032A-1
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GENERAL INFORMATION:
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Query Match
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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NAME: LAZAR, Steven R.
REGISTRATION NUMBER: 32,618
REFERENCE/DOCKET NUMBER: GI:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 498-8260
                                                                                                                    TELEFAX: (617) 876-5851
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 4425 base pairs
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/749,169A
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: LaVallie, Edward APPLICANT: Racie, Lisa APPLICANT: DeRobertis, Edward
                                                                                                                                                                                                                                                                                                                                                     COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                          REFERENCE/DOCKET NUMBER: GI
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 498-8260
                                                                                                                                                                                                                                            FILING DATE: August 4, 19
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: LAZAR, Steven R.
REGISTRATION NUMBER: 32,6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: HUMAN CHORDIN COMPOSITIONS
                                                       MOLECULE TYPE:
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TOPOLOGY: lir
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                                                                    STRANDEDNESS:
TOPOLOGY: lin
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20; Conserv
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: August 4, 1998

TON: 530
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     0.4%; Score 20;
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     DB 2;
     Length 4425;
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Best Local Similarity

100.0%;

Pred. No. 19;

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US-08-406-030A-3
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   Query Match
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                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/11704
FILING DATE: 02-DEC-1993
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION UMBER: PCT/US92/09627
FILING DATE: 05-NOV-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                       TELEFAX: (617) 861-954
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Treco, Douglas A.
APPLICANT: Heartlein, Michael W.
APPLICANT: Hauge, Brian M.
APPLICANT: Selden, Richard F
TITLE OF INVENTION: Protein Produce NUMBER OF SEQUENCES: 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                      MOLECULE TYPE:
                                                                                                                                                                                          REFERENCE/DOCKET NUMBER: TK
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 861-6240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 10-JUL-1992 PRIOR APPLICATION DATA: APPLICATION NUMBER: US 0
                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
APPLICATION NUMBER: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US 07 FILING DATE: 03-DEC-1992 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE: 13-MAY-PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION: 435
PRIOR APPLICATION NUMBER: US 08/243,391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/406,030A FILING DATE: 17-MAR-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ZIP: 02173
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
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                                                                         TOPOLOGY:
                                                                                                           TYPE:
                                                                                                                                                                                                                                          NAME: Granahan, Patricia
REGISTRATION NUMBER: 32,227
                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
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STATE:
                                                                                     STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US 07/911,533
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OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                      ENGTH:
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                                                                                                        i: 4488 base pairs
nucleic acid
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                                                                                                                                                                           (617) 861-9540
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                                                                         linear
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                                                     DNA (genomic)
                                                                                     single
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   0.4%;
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 Score 20;
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 DB 4;
Length 4488,
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GENERAL INFORMATION:
APPLICANT: YE, Jane et al.
TITLE OF INVENTION: ISOLATE:
TITLE OF INVENTION: ACID MOI
TITLE OF INVENTION: THEREOF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-276-531-31
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 31,
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SEQ ID NO 3
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CURRENT FILING DATE: 2001-03-08
NUMBER OF SEQ ID NOS: 4
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NAME/KEY: misc_feature
LOCATION: (1)...(62804
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                                                           SOFTWARE: Word Perfect 6.1 for Windows/MS-DOS CURRENT APPLICATION DATA:
                                                                                                                                  COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
ADDRESSEE: INCYTE PHARMACEUTICALS, INC
                                                                                                                                                                                                                                                                                                    APPLICANT: Guegler, Karl J.

APPLICANT: Baughn, Mariah R.

TITLE OF INVENTION: COMPOSITION FOR THE DETECTION OF GENES ENCODING

TITLE OF INVENTION: RECEPTORS AND PROTEINS ASSOCIATED WITH CELL PROLIFERATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH:
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES:
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                                                                                            MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                FILING DATE:
                                               APPLICATION NUMBER:
                                                                                                                                                                                                      CITY: PALO ALTO STATE: CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local
                  CLASSIFICATION
                                                                                                                                                                                      COUNTRY:
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6183968
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                                                                                                                                                                                      USA
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                                                                                                                                                                                                                                                                                                                                                                                             Yue, Henry
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Lal, Preeti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
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                                Herewith
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100.0%; Pred. No. 16
htive 0; Mismatches
                                                                                                                                                                                                                                                                                           134
                                                US/09/276,531
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); Mismatches
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INFORMATION FOR SEQ ID NO: 31:
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                                                                                                                                                              INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Lynn E. Murry, Ph.D.
REGISTRATION NUMBER: 42,918
REFERENCE/DOCKET NUMBER: PA-0008 US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (650) 855-0555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: 60/079,6
FILING DATE: March 27, 1998
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4126 TGGGAAGAACCAGCTGCTC 4144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: ALL TRANS-RETINALDEHYDE BINDING PROTEIN, DNA TITLE OF INVENTION: ENCODING SAME, AND ANTIBODIES THERETO NUMBER OF SEQUENCES: 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
ADDRESSEE: BROWDY AND NEIMARK
STREET: 419 Seventh Street, N.W., Suite 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/358,171
FILING DATE: 16-DEC-1994
CLASSIFICATION: 530
CLASSIFICATION: 530
                                                                                                   SEQUENCE CHARACTERISTICS:
LENGTH: 1420 base pairs
TYPE: nucleic acid
                                                                                                                                                                                          REFERENCE/DOCKET NUMBER: FO TELECOMMUNICATION INFORMATION: TELEPHONE: 202-628-5197 TELEPAX: 202-737-3528
                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: YUN, Allen C.
REGISTRATION NUMBER: 37,971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
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                                                    MOLECULE TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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NAME/KEY: CDS
LOCATION: 17..889
                                                                       TOPOLOGY:
                                                                                    STRANDEDNESS: single
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1: D.C.
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                                                                                                                                                                                                                                                            ; NAME/KEY:
; LOCATION:
US-09-090-947-1
, Sequence 1, Application US/08138641; Patent No. 5474921; GENERAL INFORMATION:
                                                    RESULT 13
US-08-138-641-1
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                                                                                                                                                                                      Query Match 0.4%; Score 19; DB 3; Length 1420; Best Local Similarity 100.0%; Pred. No. 55; Matches 19; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3342 GCCCCAGCCCAGGAGGGGC 3360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
ADDRESSEE: BROWDY AN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: FONG, Henry K.W.
TITLE OF INVENTION: ALL TRANS-RETINALDEHYDE BINDING PROTEIN, DNA
TITLE OF INVENTION: ENCODING SAME, AND ANTIBODIES THERETO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
NAME: YUN, Allen C.
REGISTRATION NUMBER: 37,971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                           3342 GCCCCAGCCCAGGAGGGGC 3360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELECOMMUNICATION INFORMATION: TELEPHONE: 202-628-5197
                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        469 GCCCCAGCCCAGGAGGGGC 451
                                                                                                                                                                                                                                                                                                                FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: 248633
                                                                                                                          469 GCCCCAGCCAGGAGGGGC 451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/09/090,947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET:
                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: 202-737-3528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                 STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                       TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                 ENGTH:
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                                                                                                                                                                                                                                                                                                                                                                                 nucleic acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        419 Seventh Street, N.W., Suite 300
                                                                                                                                                                                                                                                                                                                                                                                                     1420 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           USA
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                                                                                                                                                                                                                                                                                                                                                   linear
                                                                                                                                                                                                                                                                                                                                    cDNA
                                                                                                                                                                                                                                                                                                                                                                   single
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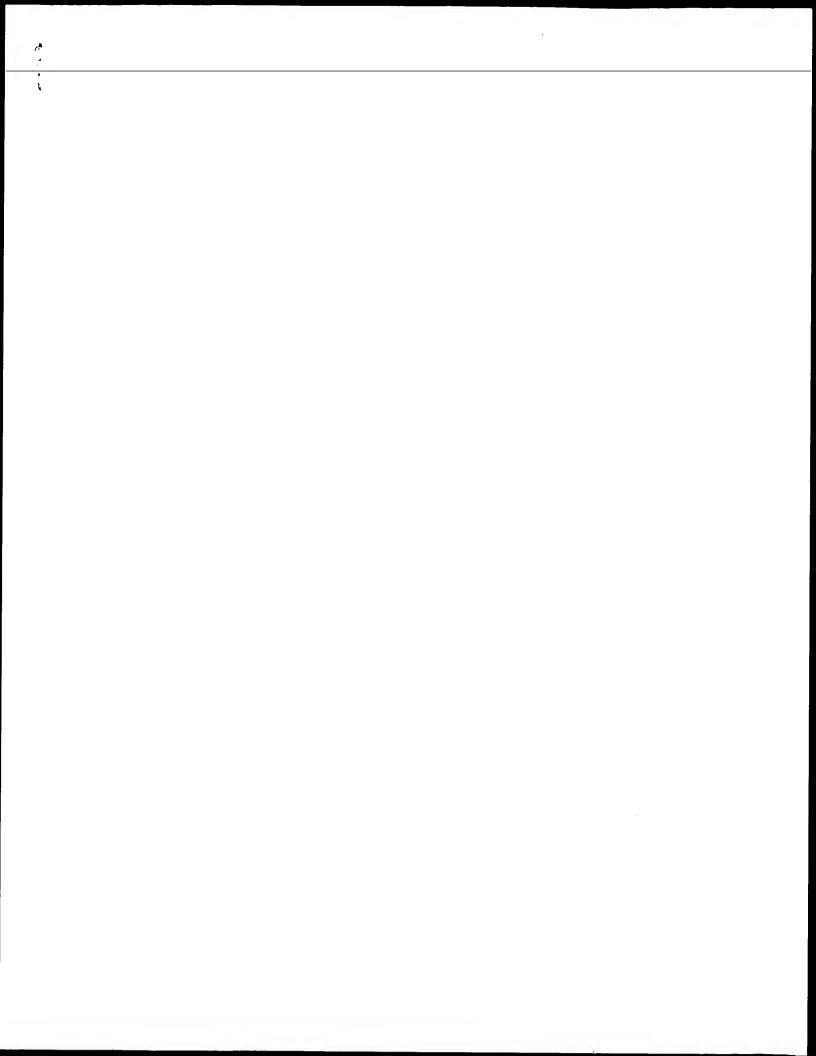
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US-08-138-133-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; | TOPOLOGY: linear; 
; MOLECULE TYPE: cDNA US-08-138-641-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 3870 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 1, Application US/08138133 Patent No. 5519163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: GIBBS, JACKSON B.
APPLICANT: KOBLAN, KENNETH S.
APPLICANT: MACLEOD, ANGUS M.
APPLICANT: MERCHANT, KEVIN J.
APPLICANT: MERCHANT, KEVIN J.
TITLE OF INVENTION: INHIBITORS OF PHOSPHOINOSITIDE-SPECIFIC
TITLE OF INVENTION: PHOSPHOLIPASE C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query
                      MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1097 TGGACTGCTGGGATGGGCC 1115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1537 TGGACTGCTGGGATGGGCC 1555
                                                                                                                               COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REGISTRATION NUMBER: 35,297
REFERENCE/DOCKET NUMBER: 18:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908) 594-3903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/08/138,641
FILING DATE:
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Muthard, David A.
REGISTRATION NUMBER: 35,297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDIUM TYPE: Floppy disk
COMPUTER: IBM FC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: POMPLIANO, DAVIG L.
TITLE OF INVENTION: ASSAY TO DETERMINE INHIBITORS OF
TITLE OF INVENTION: PHOSPHOINOSITIDE-SPECIFIC PHOSPHOLIPASE C-GAMMA
NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                  STREET: P.U. CITY: RAHWAY
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|Local Similarity 100.0%; P
|nes 19; Conservative 0;
FILING DATE:
        APPLICATION NUMBER: US/08/138,133
                                                                                                                                                                                        STATE:
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                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                    ÄDDRESSEE: DAVID A. MUTHARD
STREET: P.O. BOX 2000, 126 E. LINCOLN AVENUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: (908) 594-4720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET: P.O. CITY: Rahway
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                                                                                                                                                                    U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E: David A. Muthard
P.O. Box 2000, 126 E. Lincoln Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Koblan, Kenneth S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0.4%; Score 19; DB 1; Length 3870; 100.0%; Pred. No. 52;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18937
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US-08-138-641-3
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        Matches
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Patent No. 547492
                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 19; Conserv
                                                                                                                                                                                  TELEPHONE: (908) 594-39
TELEFAX: (908) 594-4720
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: (908) 594 4720
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 3870 base pairs
                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: Muthard, David A.
REGISTRATION NUMBER: 35,297
REFERENCE/DOCKET NUMBER: 18
TELECOMMUNICATION INFORMATION:
                                                                                         MOLECULE TYPE:
                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 3893 base pair
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Koblan, Kenneth S.
APPLICANT: Pompliano, David L.
TITLE OF INVENTION: ASSAY TO DETERMINE INHIBITORS OF
TITLE OF INVENTION: PHOSPHOINOSITIDE-SPECIFIC PHOSPHOLIPASE C-GAMMA
NUMBER OF SEQUENCES: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1097 TGGACTGCTGGGATGGGCC 1115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1537 TGGACTGCTGGGATGGGCC 1555
                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY: linear MOLECULE TYPE: cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: MUTHARD, DAVID A.
REGISTRATION NUMBER: 35,297
REFERENCE/DOCKET NUMBER: 18
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908) 594-3903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
                       Local
                                                                                                                                                                                                                                                                                                                                                                                                         MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                       TOPOLOGY:
                                                                                                                     STRANDEDNESS:
                                                                                                                                          TYPE:
                                                                                                                                                                                                                                                                                                                           FILING DATE:
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY:
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                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER:
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     19; Conservative
h Similarity 100.0%; P
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                                                                                                                                     : 3893 base pairs nucleic acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             E: David A. Muthard
P.O. Box 2000, 126 E. Lincoln Avenue
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                                                                                                         linear
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                                                                                         CDNA
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100.0%; Pred. No.
ative 0; Mismatc
                 0.4%; Score 19; DB 1; Length 3893; 100.0%; Pred. No. 52;
                                                                                                                                                                                                                                                                                                                                                            US/08/138,641
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     Mismatches
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   Indels
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 Gaps
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1537 TGGACTGCTGGGATGGGCC 1555

Db 1097 TGGACTGCTGGGATGGGCC 1115

Search completed: March 29, 2003, 13:11:14 Job time : 575 secs



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Run on:
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Maximum DB seq length: 200000000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Post-processing: Listing first 45 summaries
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10956.277 Million cell updates/sec
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Gapop_60.0 , Gapext 60.0
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4635
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
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: /cgn2_6/ptodata/2/pubpna/US07_PUBCOMB.seq:*
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Copyright (c) 1993 - 2003 Compugen Ltd.
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

### SUMMARIES

18 19	16 17	15	14	13	12	11	10	9	œ	7	σ	u	4.	с 3	2	μ.,	Result No.
20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	3624	4635	Score
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	78.2	100.0	Query Match
3441 3441	3441	3441	3441	3441	3441	2709	2629	2573	2289	2289	1840	1530	498	426	3624	4635	Query Match Length
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US-09-866-028-6 US-09-944-449-6	US-09-944-929-6	US-09-944-944-6	US-09-944-896-6	US-09-944-403-6	US-09-944-413-6	US-09-804-969-20	US-09-908-664-1	US-09-917-800A-1339	US-09-908-664-3	US-09-804-969-14	US-09-835-996A-7	US-09-815-242-7987	US-09-292-758-106	US-09-954-456-1912	US-09-927-112-3	US-09-927-112-1	ID
sequence 6, Appli Sequence 6, Appli	<b>~</b> 1	ນ໌໙	Sequence 6, Appli	Sequence 6, Appli	Sequence 6, Appli	Sequence 20, Appl	Sequence 1, Appli	Sequence 1339, Ap	Sequence 3, Appli	Sequence 14, Appl	Sequence 7, Appli	Sequence 7987, Ap	Sequence 106, App	Sequence 1912, Ap	Sequence 3, Appli	Sequence 1, Appli	Description

c 45	C 44		42	41	4.	c 39	38	w	w	w	c 34	ω	w	w		29	28	27	26	25	24	23	22	21	20	
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US-10-219-248-4	US-09-095-881-1	US-10-084-700-3	US-10-098-841-304	US-09-815-242-7677	US-09-880-107-2390	US-09-864-761-8883	US-09-833-381-1154	US-09-864-761-25548	US-09-864-761-19416	US-09-878-574-8990	US-10-096-960-3	US-10-017-754-317	US-09-849-626-317	US-09-902-941-317	US-09-736-457-317	US-10-044-716-7	US-09-943-851A-6	US-09-944-654-6	US-09-943-762-6	US-09-944-432-6	US-09-944-097-6	-396-	- 1	-09-945-587-	944-457-	
sequence 4, Appii	Sequence I, Appii	٠.	Sequence 304, App	sequence /6//, Ap	2390,		1154,	25548,			2	Sequence 31/, App	317	317,	Sequence 317, App	INFORM	Sequence 6, Appli	, 0	•	, 0		0	٥	٥		`

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; LOCATION: (435)...(4058)
US-09-927-112-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: 32544, a novel human phospholipase C and TITLE OF INVENTION: uses thereof FILE REFERENCE: 38155-20048.00
CURRENT APPLICATION NUMBER: US/09/927,112
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: US 60/246,808
PRIOR FILING DATE: 2000-11-08
NUMBER OF SEQ ID NOS: 17
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 1, Application US/09927112
Patent No. US20020106774A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ouery Match 100.0%; Score 4635; Best Local Similarity 100.0%; Pred. No. 0; Matches 4635; Conservative 0; Mismatches
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APPLICANT: Silos-Santiago, Inmaculada
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                                                                        121 GCTGAGGGGCTGAGTGCTCATTCCAGCCGCCTCGGGGAAACCCGGGGCTGGGAGACCCCATG 180
                                                                                                                                                                                                                                                                                                              61 AACCTGCCGGTCTCCGGCTGGGACGGTGGCTGGATCAGCTCAAGCCTCCAGGGCCCCTGAG 120
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CCCTCGAG	CCGCCAGCCTGCAGCGCTTCCTGCAGGTGGAGCAGAAGATGGCGGGTGTGA	120
ACCTGGAT	CCCGCCGGGACCTCTACCTGCTCATGCTGACCTACAGCAACCACAAGGACC	<u></u>
ATGATGTCC	ATGACCACCAAGGGACGCTGGGTTTTGAAGAGTTCTGTGCCTTCTACAAGA	108
GGGACACG	3CCCCGGCAGAGGGTGAAGCAGATGTTCAGGGAA 	-2-2-
TTGCTGCACA	1 AGGCCGACAAGAACGGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGC	<u>96</u> 96
ACGTTTGACG	1 AGGACAGCCTGGCTCGCCGCCAGCGCACCAGGGACCAGTGGCTGAAGCAGA	9 9
ATCAGCGACG	1 GCGAGGTGGCGCACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCA	8 8 4 4
TCCACCAGCA		78
GACCCCAACT	GTGAGGGCGGCAGTCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTC	72 72
CAGGAGGTGA          CAGGAGGTGA	GGAGGCCCTCACGCAAGAACGAGAAGGCCAAGATCTCCATCGACTCCATC	_ <u>&amp;</u> &_
TGCATCCGCT           GCATCCGCT	1 GCGGCTCCAAGGGCCTGGTCCGCTTCTACTACCTGGACGAGCACCGCTCCTV	_ <u>6</u> 6_
GAAGCTGCGTG	CCGTGGTGGAGCGGTGCATGGGTGCCATGCAAGAGGGGATGCAGATGGT	541 541
CAACATTCTGC	CTGAGGACCCAGGGCCGGATCCGGAGAGCAGGTGGCTTTTCTTGAGCGG	_44_ m m
GCTCTTCCGC	1 TCAGTCCCTCCATGATGGCTCCCCCGACAGCCGGCCCCTTCCTGGCCCA	_ <b>44</b> _ 2 2
CCGACAGTCC	1 GGCCCAGCTGGTGATCCCAGCCAGTCCCAGCTTTCAGTTGCTGCCCCA	
GTGGACGGC	1 CGGGGGCCCTGGGAGCAGAGAGACACACACACACACACAC	_33_
BACAAGGGACA            BACAAGGGACA	1 ACCACCAGGCTTGGGTGTGTGATGCGCTGGCCCAGGCTACACCCCC	-u-u- 4 4
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ACATAGAGATGGAGGCGGCGTCCAGCTGGCAGGTGTCGTCCTTCAGCGAGACCAAGGCCC 2	TGAAGCTGTCCCGGGCCCTCTCTGACCTGGTGAAGTACACCAAGTCCGTGGCCACCCAC	GCTGTCCCGGGCCCTCTCTGACCTGGTGAAGTACACCAAGTCCGTGGCCACCCAC	ATGAGGGTCAGGACTCCCCGGGAGGCCAGAGCCGAGGGGGCGACCCGGCAGAAGA	TCTCCAGGCGCAAGAAGGAGGCGGCAAGCAAGCTGAAGAAGGCGGCCAGCGTGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGG	GGAGTCTGGGGGAGATGCCGGGGCCAGCGAATGGCCGCCTCGTCGTGGGAAAGCT	AGTCTGGGGAAGATGCCGGGGCCAGAAGCGCAATGGCCGCCTCGTCGTGGGAAGC	CGTCTCCACACTGTCCCCATCTGGAAGACTCGGACGCAAGAGCAAGGCTGAAGAGGACG	TGGATTCCCTCATCAAAGAGTCGAAGATTCGGGACTGTGAGGACCCCAACAACTTCT	AACTGGATTCCCTCATCAAAGAGTCGAAGATTCGGGACTGTGAGGACCCCAACAACTTCT 2		CTICAATIGGGGATGGATCGAATCGAAATCGAAAAGCGTGTAAGAAAACACTIOACGAAAACACTAAAAAAAAAAAAAAAAAAAAAAAAAAAA	ATTOCKS AND A ACCIONATION LOT LOT LOAD AND ACCIONATION AND ACCIONATION ACCIONATIONATION ACCIONATION ACCIONATION ACCIONATION ACCIONATION ACCIONATIONA ACCIONATION ACCIONATIONA AC	I ULI LAMUGULAAGAI LUTIUGI GAAGGGGAAGAAGCI CCCAGCCAACAI CAGCGAGG	AGATGCTCAAGGGCAAGATCCTCGTGAAGGGGAAGAAGCTCCCAGCCAACATCAGCGAGG	GGGACAAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACCACCACTCCCCCTCTCCAC 1	CAAGCTGGACCTGTCATCAGTGAGCAGTGAAGATGCCACCACACTCCCCTCTC	. ADAACCACTGCAGTGTCATCCAGCAGAAGAAAATGGCCCAGTATCTGACTGA	AACCATCAACAAATATGCCTTCATCAAGAATGAGTACCCAGTGATCCTGTCCATC	— .D	. GGGAGCCCATTGTGCACCATGGCTACACTCTGACTTCCAAGATCCTCTTCAAAGACGTCA :	rccracadacraccraccacracaradagradacracracagaragacccaac	CTTGGGTCCTGCAGGCTGGCTGCCGCTGCGTGGAGGTGGACTGCTGGGAGGGGACGGCCGACG	CCCACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCAGTCACGGGTGGACATGTATG	CACAACACCTACCTCGTGGGTGACCAGCTCATGTCCCCAGTCACGGGTGGACATGTAT	AGCACCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCTCGT	GCACCACCATGTGCACCAGGACATGACGCAGCCGCTGAGCCACTACTTCATCACCT		CATTGATGGCTTCACCAACTACACCAGGAGCCCTGCTGGTGACATCTTCAACC	
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GAGGGGGTCCAGCTGGCAGTTCCTCCAGCAGAGCCCAGCAGCAGAGCGCAGTTCAGCGAGTTCAGCGAGAGCCCCGCAGCAGTAGCCTTCAGCCAGC	Oy 3241 GCCGCAGGGG Db 3241 GCCGCAGGGG Oy 3301 CAGAACGATGT Db 3361 CCGGCAGCGGG OY 3361 CCGGCAGCGGG OY 3421 GAGTGCGGCC OY 3421 GAGTGCGGCC Db 3421 GAGTGCGGCC	3001 CAGGCTTA 3061 CTGTCAG 3061 CTGTCAG 3061 CTGTCAG 3121 GAGGCCG 3121 GAGGCCG 3121 GAGGCCG 3121 GAGGCCG 3181 CCGTTAG 3181 CCGTTAG	2761 ACCGTGG  2821 GCAGCAC  2821 GCAGCAC  2881 CCCTGGT  2881 CCCTGGT  2881 CCCTGGT  2941 ACGATCC  2941 ACGATCC  3001 CAGGCTV	2581 ACCGAGC	Db 2341 ACATAGAGATG  Qy 2401 ACCAGATTCTG           Db 2401 ACCAGATTCTG Qy 2461 GCATCTACCCC Qy 2461 GCATCTACCCC Qy 2521 ACGCCGGCTGC Db 2521 ACGCCGGCTGC
CTRACGCTTCAACCAGCAGA	actrococaaactractoricity	CACCOTGTACTAGA ATCAGCGTAAGGTCAAG ATCAGCGGTAAGGTCAAG ATCAGCGGTAAGGTCAAG ATCAGCGGTAAGGTCAAG CCCGGCTCGCTGGACAGT                     CCCGGCTCGCTGGACAGT CCCGGCTCGCTGGACAGT CCCGGTTCGCTGGACAGT CCGGATCCTGCGGCGCACG CGGATCCTGCGGCGCACG	ATCATCGACCCCTTTGTG	GGA	GAGGGGGGTCCAGCTGGCAGTAGCAGCAGTAGCAGCAGTAGCAGCAGTAGCCGGCGCAGTACCTCTCCTACCGTGTGGACTCCTACCTTGCCTCTACCTAC
		GAGGCCTAAAAG  CTGGGCCTAAAAG  CTGGGCCTAAAAG  CTGGGCCTAAAAG  CTGGGCCGCCCCCCCCCC	TGGGCTCCT  CCCCACCTGG  CCCCACCTGG  CCTCCTCGTC  CTTCAGCAGC  CTTCAGCAGC  CTTCAGCAGC  CTTCAGCAGC  CTTCAGCAGC  CATCTTCGTC  CATCTCGTC  CATCTTCGTC  CATCTTCGTC  CATCTTCGTC  CATCTTCGTC  CATCTTCG	GCTACGTACTCAAGCCTGGGGCTACGTACCTCAAGCCTGGGGCAGCTCAAGCCCCGGGCAGCTCAAGCCCCAAGCCTCAAGCCTGAGCCGGCGAGCTCAAGCCGGCGGCGAGCTCCATCCCAAGCCGGCGGCGACTCCATCCCAAGCCGCGGCGACTCCATCCCAAGCCGCGCGACTCCATCCCAAGCCGCGCGACTCCCTGCGAAGCCGCGCGACTCCCTGCGAAGCCATCCAT	FIGTCGTCCTTCAGCGAGA  TACGCTTCAACCAGCAGC  TACGCTTCAACCAGCAGC  TACGCTTCAACCAGCAGC  AGCAACTACAACCCGCAGC  AGCAACTACAACCCGCAGC  AGCAACTACAACCCGCAGC  AGCAACTACAACCCGCAGC  AGCAACTACAACCCGGATGC  CAGTCAGAGGGGGGGATGC  CAGTCAGAGGGGGGGGATGC

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Sequence 3, Application US/09927112

| Patent No. US20020106774A1
| GENERAL INFORMATION:
| APPLICANT: Millennium Pharmaceuticals, Inc.
| APPLICANT: Millennium Pharmaceuticals, Inc.
| APPLICANT: Millennium Pharmaceuticals, Inc.
| APPLICANT: Meyers, Rachel
| APPLICANT: Meyers, Rachel
| APPLICANT: Meyers, Rachel
| APPLICANT: Meyers, Rachel
| TITLE OF INVENTION: Uses thereof
| TITLE OF INVENTION: USES THE US/09/927,112
| CURRENT APPLICATION NUMBER: US/09/927,112
| CURRENT FILING DATE: 2000-10-08-10
| PRIOR APPLICATION NUMBER: US 60/246,808
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GGGGATGGCAGCCTGAGCATTGGCGAGGTCCTGCAGCTGCTGCACAAGCTCAACGTGAAC 1034
                                                     CGCCGCCAGCGACCAGCGACCAGTGGCTGAAGCAGACGTTTGACGAGGCCGACAAGAAC
                                                                                                                                                                                                                                                                                                                     TACCACGGCAGCCACCGCGAGTCGCTGGACCTGGTCTCCACCAGCAGCGAGGTGGCGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                     TCGGAGGTCTTCCAGCGCTACCCTGACGGCAGCTTCGACCCCCAACTGCTTCAGCATC 794
                                                                                                                                                                      ACCTGGGTCACTGGCCTACCTCATGGCCGGCATCAGCGACGAGGACAGCCTGGCT
                                                                                                                                                                                                                           ACCTGGGTCACTGGCCTGCGCTACCTCATGGCCGGCATCAGCGACGACGACAGCCTGGCT
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                                                     ATCAAAGAGTCGAAGATTCGGGACTGTGAGGACCCCAACAACTTCTCCGTCTCCACACTG
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                                                                                                                                                    GATGCATCCACCAATCGAAAGCGTGTAGAAAACACTGCTAAGAGGAAACTGGATTCCCTC
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3135 GGCTCGCTGGACAGTCATGCTGCTGGGGGGGCCCCGGGCCCGGCCCTCCGTTAGCCAGCGG 3194	D Q
3075 AGCGGTAAGGTCAAGCAGGCTCTGGGCCTAAAAGGCCTCTTCCTCCGAGGCCCAAAGCCC 3134	g Q
3015 GTGTACCTAGAAGGGATGGAAGAGGCCTCCATCTTCGTGCATGTGGCTGTCAGTGACATC 3074	B 8
2955 CGTGACTTCATTGGCCAGAGGACGCTGGCCTTCAGCAGCATGATGCCAGGCTACAGACAC 3014	B 8
2895 GTGCACATGCCGGAGATCGCGCTGGTCGGCTTCCTCGTCTGGGACCACGATCCCATCGGG 2954	B 성
2835 ACCCGCGTGGTGGACGACAACGGGTTCAACCCCACCTGGGAGGAGACCCCTGGTTTTCATG 2894	B 8
2775 ATCGACCCCTTTGTGGAGGTGGAGATCATTGGGCTCCCTGTGGACTGCAGCAGGGAGCAG 2834	B 8
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2655 AACCCCAACTCGGAGGACCCCCTGCCCGGGCAGCTCAAGAAGCAGCTGGTGCTCCGGATC 2714	B 8
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92	유 성
2295 GCCTCTCTGACCTGGTGAAGTACACCAAGTCCGTGGCCACCCAC	문왕
80	g 8
2175 AAGAAGGGCAAGCAAGCTGAAGAAGGCGGCCAGCGTGGAGGAGGAGGAGGATGAGGGTCAGGAC 2234	8 8
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1621 TCCCCATCTGGAAAGCTCGGACGCAAGAGCAAGGCTGAAGAGGACGTGGAGTCTGGGGAG 1680	당

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CCTTGGCTTGCCTGTGGCCCATAG 3624
                                  CCTTGGCTTGCCTGTGGCCCATAG 4058
                                                                                                         CCTCGTGTGCTCGTGGCTCTGTATCCGTGGCACTGTCTCCGTGGCACTCTGCTC
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RESULT 3
US-09-954-456-1912/c
US-09-954-456-1912/c
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US-09-954-456-1912/c
US-09-954-456-1912/c
US-09-954-456-1912/c
Patent No. US20020115057A1
; GENERAL INFORMATION:
PROCESS FOR INVENTION:
PROCESS FOR INVENTION:
Sets
FITLE OF INVENTION: Sets
FITLE REFERENCE: 689290-76
; CURRENT APPLICATION UNMER: US/09/954,456
; CURRENT FILING DATE: 2001-09-18

Cance

PRIOR APPLICATION NUMBER: US/60/233,617

2000-09-18

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APPLICANT: Burmer, Glenna C.
APPLICANT: Brown, Joseph P.
APPLICANT: LifeSpan BioSciences, Inc.
TITLE OF INVENTION: Nucleic Acid Sequences and Proteins
TITLE OF INVENTION: Associated With Aging
FILE REFERENCE: 017473-0011110US
CURRENT APPLICATION NUMBER: US/09/292,758
CURRENT FILING DATE: 1999-04-14
EARLIER FILING DATE: 1999-04-15
NUMBER OF SEQ ID NOS: 147
NUMBER OF SEQ ID NOS: 147
SEQ TPWARE: FastSEQ for Windows Version 3.0
SEQ TD NO 106
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                                                                                                                                                      ; TYPE: DNA
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: misc_feature
; LOCATION: (1)...(498)
; OTHER INFORMATION: n = a,t,c or g
US-09-292-758-106
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                                                                             Matches
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Publication No. US20020197602A1
GENERAL INFORMATION:
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NUMBER OF SEQ ID NOS: 2276
SOFTWARE: PatentIn version 3.0
SEQ ID NO 1912
DENOTH: 426
DENOTH: 426
                                                                                                              Query Match
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                    3044 CATCTTCGTGCATGTGGCTG 3063
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200 CATCTTCGTGCATGTGGCTG 219
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                                                                                              ocal Similarity
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APPLICATION NUMBER: US/60/235,720
FILING DATE: 2000-09-27
APPLICATION NUMBER: US/60/235,840
FILING DATE: 2000-09-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/60/235,863
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/60/235,711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/60/235,638 FILING DATE: 2000-09-26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/60/234,923 FILING DATE: 2000-09-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/60/235,637
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/60/235,134
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                                                                           Conservative
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                                                                    0.4%; Score 20; DB 9;
100.0%; Pred. No. 6.8;
ative 0; Mismatches
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; LOCATION: (1)...(1530)
US-09-815-242-7987
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                                                                                                                                                                                                                                                                                                      Sequence 7, Application US/09835996A Patent No. US20020142953A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
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NUMBER OF SEQ ID NOS: 14110
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 7987
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APPLICANT:
APPLICANT:
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APPLICANT:
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APPLICANT:
APPLICANT: Ren, Feiyan
APPLICANT: Qian, Xiahong
APPLICANT: Wang, Dunrui
TITLE OF INVENTION: MATERIALS AND METHODS RELATING TO LIPID METABOLISM
FILE REFERENCE: 28110/35915A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Xu, H. Howard
TITLE OF INVENTION: Identification of Essential Genes in
TITLE OF INVENTION: Prokaryotes
FILE REFERENCE: ELITA.011A
CURRENT APPLICATION NUMBER: US/09/815,242
CURRENT FILING DATE: 2001-03-21
PRIOR APPLICATION NUMBER: 60/191,078
PRIOR APPLICATION NUMBER: 60/191,078
PRIOR FILING DATE: 2000-03-21
PRIOR APPLICATION NUMBER: 60/206,848
PRIOR FILING DATE: 2000-05-23
PRIOR FILING DATE: 2000-05-23
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APPLICANT:
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APPLICANT: Loeb, Debra
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PRIOR FILING DATE: 2000-12-22
PRIOR APPLICATION NUMBER: 60/269,308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR FILING DATE: 2000-10-23
PRIOR APPLICATION NUMBER: 60/253,625
PRIOR FILING DATE: 2000-11-27
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Zhou, Ping
Zhou, Ryle
                                                                                                               Liu, Chenghua
Asundi, Vinod
Zhao, Qing
Wehrman, Tom
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                                                                                              Wehrman, Tom
Drmanac, Radoje
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Loery, Julie
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Zyskind, Judith W.
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100.0%; Pred. No.
ative 0; Mismatc
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CURRENT APPLICATION NUMBER: US/09/835,996A
CURRENT FILING DATE: 2001-04-16
PRIOR APPLICATION NUMBER: US 60/197,137
PRIOR TILING DATE: 2000-04-14
PRIOR APPLICATION NUMBER: US 09/714,936
PRIOR FILING DATE: 2000-11-17
PRIOR APPLICATION NUMBER: US 09/667,298
PRIOR FILING DATE: 2000-09-22
PRIOR PILING DATE: 2000-09-22
PRIOR APPLICATION NUMBER: US 09/631,451
PRIOR APPLICATION NUMBER: US 09/598,042
PRIOR FILING DATE: 2000-06-20
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                                                                                                                                                                                                                                                           ; TYPE: DNA; ORGANISM: homo sapiens US-09-804-969-14
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RESULT 8
US-09-908-664-3
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Patent No. US20020081595A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: PatentIn version 3.0 SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                        SEQ ID NO 14
LENGTH: 2289
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APPLICANT: Nepomni
APPLICANT: Donoho,
APPLICANT: Hilbun,
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                                                                                                                                                                                                                                                                                                                                                                                 CURRENT FILING DATE: 2001-03-13
PRIOR APPLICATION NUMBER: US 60/188,885
PRIOR FILING DATE: 2000-03-13
PRIOR APPLICATION NUMBER: US 60/189,693
PRIOR FILING DATE: 2000-03-15
NUMBER OF SEQ ID NOS: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/09/804,969
CURRENT FILING DATE: 2001-03-13
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APPLICANT: Sands, Arthur T.
TITLE OF INVENTION: No. US20020081595Alel Human Phospholipases and Polynucleotides En
FILE REFERENCE: LEX-0148-USA
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NAME/KEY: CDS
LOCATION: (140)..(1840)
                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: FastSEQ for Windows Version 4.0
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                                                                                      991 TGCCGCTGCGTGGAGGTGGA 1010
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Abuin, Alejandro
Friedrich, Glenn
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Hilbun, Erin
Turner, C. Alexander Jr.
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; OTHER INFORMATION: Genbank Accession No. US20020119462A1 D42148 US-09-917-800A-1339
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                                                                                                                                        PRIOR FILING DATE: 2001-07-09
NUMBER OF SEQ ID NOS: 1740
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 1339
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TITLE OF INVENTION: 16816 AND 16839, NOVEL HUMAN
TITLE OF INVENTION: PHOSPHOLIPASE C MOLECULES AND USES THEREFOR
FILE REFERENCE: 38155-20022.00
CURRENT APPLICATION NUMBER: US/09/908,664
CURRENT FILING DATE: 2001-07-17
PRIOR APPLICATION NUMBER: US 60/218,675
PRIOR PILING DATE: 2000-07-17
NUMBER OF SEQ ID NOS: 24
NUMBER OF SEQ ID NOS: 24
NUMBER OF SEQ ID NOS: 24
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APPLICANT: Meyers, Rachel
APPLICANT: Rudolph-Owen, Laura
APPLICANT: Tsai, Fong Yin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: US 60/222,880 PRIOR FILING DATE: 2000-11-02 PRIOR APPLICATION NUMBER: US 60/290,029 PRIOR FILING DATE: 2001-05-11
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CURRENT APPLICATION NUMBER: US/09/917,800A
CURRENT FILING DATE: 2001-07-31
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                                                FEATURE:
                                                                       ORGANISM: Rattus norvegicus
                                                                                                 TYPE: DNA
                                                                                                                   LENGTH: 2573
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APPLICATION NUMBER: US 60/297,457
FILING DATE: 2001-06-13
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                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US 60/298,884
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APPLICATION NUMBER: US 60/303,459
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Gene Logic, Inc.
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Castle, Arthur
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ORGANISM: homo sapiens

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RESULT 11
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US-09-908-664-1
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Matches
             SEQ ID NO 20
LENGTH: 2709
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APPLICANT:
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                                                                 CURRENT FILING DATE: 2001-03-13
PRIOR APPLICATION NUMBER: US 60/188,885
PRIOR FILING DATE: 2000-03-13
PRIOR APPLICATION NUMBER: US 60/189,693
PRIOR FILING DATE: 2000-03-15
NUMBER OF SEQ ID NOS: 20
                                                                                                                                                                  APPLICANT: Sands, Arthur T.
TITLE OF INVENTION: No. US20020081595Alel Human Phospholipases and Polynucleotides EnfILE REFERENCE: LEX-0148-USA
CURRENT APPLICATION NUMBER: US/09/804,969
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TITLE OF INVENTION: PHOSPHOLIPASE C MOLECULES AND USES THEREFOR
FILE REFERENCE: 38155-2002.00
CURRENT APPLICATION NUMBER: US/09/908,664
CURRENT FILING DATE: 2001-07-17
PRIOR APPLICATION NUMBER: US 60/218,675
PRIOR PILING DATE: 2000-07-17
                                                    SOFTWARE: FastSEQ for Windows Version 4.0
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SOFTWARE: FastSEQ for Windows Version 4.0
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TYPE: DNA
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LOCATION: (257)...(2545)
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Hilbun, Brin
Turner, C. Alexander Jr.
Abuin, Alejandro
Friedrich, Glenn
Zambrowicz, Brian
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Tsai, Fong Yin
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100.0%; Pred. No.
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Patent No. US20020156004A1
GENERAL INFORMATION:
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PRIOR FILING DATE: December 3, 1997
PRIOR APPLICATION NUMBER: 60/069,334
PRIOR FILING DATE: December 11, 1997
PRIOR APPLICATION NUMBER: 60/069335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION NUMBER: 09/866,028 PRIOR FILING DATE: 2001-05-25
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CURRENT FILING DATE: 2001-09-26
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FILING DATE: December 16 1007
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APPLICATION NUMBER: 60/069,278
FILING DATE: December 11, 1997
           FILING DATE: February 25, 1998 APPLICATION NUMBER: 60/112,850
                                                                                                                                                                                                                                                                                                                                                             FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: 60/069,425 FILING DATE: December 12, 1997
                                FILING DATE: February 9, 1998
APPLICATION NUMBER: 60/075,945
FILING DATE: February 25, 1998
                                                                                  FILING DATE: February 9, 1998
APPLICATION NUMBER: 60/074,092
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                                                                                                                                                                                                                  APPLICATION NUMBER: 60/069,873 FILING DATE: December 17, 1997
                                                                                                                                                                                                                                                                   FILING DATE: December 16, 1997 APPLICATION NUMBER: 60/069,870
                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: 60/069,696
                                                                                                                      APPLICATION NUMBER: 60/074,086
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                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 60/069,702
FILING DATE: December 16,
                                                                                                                                             FILING DATE:
                                                                                                                                                              APPLICATION NUMBER: 60/070,440
                                                                                                                                                                             FILING DATE: December 18,
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Grimaldi, Christopher
Gurney, Austin
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100.0%; Pred. No. 5.4;
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PRIOR FILING DATE: December 16, 1998

PRIOR APPLICATION NUMBER: 60/146,222

PRIOR APPLICATION NUMBER: PCT/US98/19330

PRIOR PRIOR APPLICATION NUMBER: PCT/US98/25108

PRIOR RILING DATE: December 1, 1998

PRIOR FILING DATE: December 1, 1998

PRIOR FILING DATE: December 1, 1998

PRIOR FILING DATE: December 16, 1998

PRIOR FILING DATE: December 16, 1998

PRIOR FILING DATE: The prior 10 of 1998

PRIOR APPLICATION NUMBER: 00/7
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; TYPE: DNA
; ORGANISM: Homo Sapien
US-09-944-413-6
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US-09-944-403-6
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                                                                                                                  APPLICANT: Baker, I
APPLICANT: Botste
APPLICANT: Eaton, I
APPLICANT: Ferrary
APPLICANT: Ferrary
APPLICANT: Ferrary
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Patent No. US20020165143A1
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FILING DATE: March 3, 1999
APPLICATION NUMBER: PCT/US99/12252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: PCT/US00/05841
FILING DATE: March 2, 2000
APPLICATION NUMBER: PCT/US00/08439
FILING DATE: March 30, 2000
APPLICATION NUMBER: PCT/US00/14042
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APPLICATION NUMBER: PCT/US99/21090
FILING DATE: September 15, 1999
APPLICATION NUMBER: PCT/US99/28409
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FILING DATE: February 11, 2000
APPLICATION NUMBER: PCT/US00/04414
FILING DATE: February 22, 2000
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APPLICATION NUMBER: PCT/US99/28313
FILING DATE: No. US20020156004Alember 30, 1999
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APPLICATION NUMBER: PCT/US99/30095
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APPLICATION NUMBER: PCT/US00/20710
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                                              Godowski,Paul
Grimaldi,Christopher
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Gerritsen, Mary
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        Hillan, Kenneth
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L00.0%; Pred. No.
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PRIOR FILING DATE: December 3, 1997
PRIOR APPLICATION NUMBER: 60/069,334
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CURRENT FILING DATE: 2001-09-26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: 09/866,028 PRIOR FILING DATE: 2001-05-25
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R APPLICATION NUMBER: PCT/US99/30095 FILING DATE: February 11, 2000 APPLICATION NUMBER: PCT/US00/03565
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FILING DATE: December 11, 199
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FILING DATE: December 1
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APPLICATION NUMBER: 60/112,850
FILING DATE: December 16, 1998
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APPLICATION NUMBER: 60/069,702
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                                                                                        FILING DATE: No. US20020165143A1ember 30, 1999
APPLICATION NUMBER: PCT/US99/28313
FILING DATE: No. US20020165143A1ember 30, 1999
APPLICATION NUMBER: PCT/US99/28301
FILING DATE: December1, 1999
APPLICATION NUMBER: PCT/US99/30095
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APPLICATION NUMBER: 09/254,311
FILING DATE: March 3, 1999
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APPLICATION NUMBER: PCT/US98/25108
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APPLICATION NUMBER: PCT/US99/28409
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APPLICATION NUMBER: PCT/US99/21090
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RESULT | 14
US-09-944-896-6
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                                                                                             PRIOR APPLICATION NUMBER: 60/069335
PRIOR FILLING DATE: December 11, 1997
PRIOR PELICATION NUMBER: 60/069,278
PRIOR FILLING DATE: December 11, 1997
PRIOR APPLICATION NUMBER: 60/069,425
PRIOR FILLING DATE: December 12, 1997
PRIOR APPLICATION NUMBER: 60/069,696
PRIOR FILLING DATE: December 16, 1997
PRIOR APPLICATION NUMBER: 60/069,696
PRIOR FILLING DATE: December 16, 1997
PRIOR APPLICATION NUMBER: 60/069,696
PRIOR FILLING DATE: December 16, 1997
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                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC TITLE OF INVENTION: ACIDS ENCODING THE SAME
FILE REFERENCE: P2548P1C1
CURRENT APPLICATION NUMBER: US/09/944,896
CURRENT FILING DATE: 2001-08-31
PRIOR APPLICATION NUMBER: 09/866,028
PRIOR PELLING DATE: 2001-05-25
PRIOR PILING DATE: 2001-05-25
PRIOR PELLING DATE: DOCUMBER: 60/069,334
PRIOR FILING DATE: DECEMBER 11, 1997
PRIOR FILING DATE: DECEMBER 11, 1997
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APPLICANT: Botst
APPLICANT: Eaton
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PRIOR APPLICATION NUMBER: PCT/US01/06520
PRIOR FILING DATE: February 28, 2001
NUMBER OF CE IN C. 1000
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ORGANISM: Homo Sapien
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OR APPLICATION NUMBER: PCT/US00/05841
OR FILING DATE: March 2, 2000
OR APPLICATION NUMBER: PCT/US00/08439
OR FILING DATE: March 30, 2000
OR APPLICATION NUMBER: PCT/US00/14042
OR FILING DATE: May 22, 2000
OR APPLICATION NUMBER: PCT/US00/20710
OR APPLICATION NUMBER: PCT/US00/20710
OR FILING DATE: July 28, 2000
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APPLICATION NUMBER: 60/069,870 FILING DATE: December 17, 1997
                                              APPLICATION NUMBER: 60/069,702
FILING DATE: December 16, 1997
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5. US20020168715A1
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Goddard, Audrey
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Grimaldi, Christopher
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ORGANISM: Homo Sapien
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PRIOR APPLICATION NUMBER: 60/070,
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PRIOR APPLICATION NUMBER: 60/074,086
                                      3164 GCCCCCGGCCCGGCCCTCCG 3183
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FILING DATE: May 22, 2000
APPLICATION NUMBER: PCT/US00/20710
FILING DATE: July 28, 2000
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APPLICATION NUMBER: PCT/US99/30095
FILING DATE: December 16, 1999
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APPLICATION NUMBER: PCT/US99/28409
APPLICATION NUMBER: PCT/US99/28313
FILING DATE: No. US20020168715A1ember 30, 1999
APPLICATION NUMBER: PCT/US99/28301
APPLICATION NUMBER: PCT/US99/28301
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FILING DATE: March 2, 2000
APPLICATION NUMBER: PCT/US00/08439
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APPLICATION NUMBER: PCT/US00/04414
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FILING DATE: December 1 1000
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APPLICATION NUMBER: PCT/US99/21090
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FILING DATE: December 16, 1998
APPLICATION NUMBER: 60/113,296
FILING DATE: December 22, 1998
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APPLICATION NUMBER: 60/075,
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100.0%; Pred. No. 5.:
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TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC TITLE OF INVENTION: ACIDS ENCODING THE SAME FILE REFERENCE: P2548PLC1

CURRENT APPLICATION NUMBER: US/09/944,944

CURRENT PILING DATE: 2001-09-26

PRIOR APPLICATION NUMBER: 09/866,028

PRIOR FILING DATE: 2001-09-26

PRIOR APPLICATION NUMBER: 60/067,411

PRIOR APPLICATION NUMBER: 60/067,411

PRIOR APPLICATION NUMBER: 60/069,334

PRIOR FILING DATE: December 1, 1997

PRIOR APPLICATION NUMBER: 60/069,335

PRIOR FILING DATE: December 11, 1997

PRIOR APPLICATION NUMBER: 60/069,327

PRIOR APPLICATION NUMBER: 60/069,278

PRIOR APPLICATION NUMBER: 60/069,278

PRIOR APPLICATION NUMBER: 60/069,278

PRIOR APPLICATION NUMBER: 60/069,279

PRIOR APPLICATION NUMBER: 60/069,694

PRIOR FILING DATE: December 12, 1997

PRIOR APPLICATION NUMBER: 60/069,694

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Patent No. US20020173463A1
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R FILING DATE: December 17, 1997
R APPLICATION NUMBER: 60/669,873
R FILING DATE: December 17, 1997
DR APPLICATION NUMBER: 60/668,017
DR FILING DATE: December 18, 1997
                                 FILING DATE: December 10, 517
APPLICATION NUMBER: 09/218,517
APPLICATION NUMBER: 22, 1998
TITING DATE: December 22, 1998
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FILING DATE: December 1
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FILING DATE: December 1, 1998
APPLICATION NUMBER: 09/216,021
                                                                                                                                                                                                                                                                                       FILING DATE: December 16, 1998
APPLICATION NUMBER: 60/113,296
FILING DATE: December 22, 1998
APPLICATION NUMBER: 60/146,222
FILING DATE: July 28, 1999
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FILING DATE: December 22, 1998
APPLICATION NUMBER: 09/254,311
FILING DATE: March 3, 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: February 25, 1998 APPLICATION NUMBER: 60/112,850
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PRIOR APPLICATION NUMBER: PCT/US99/28409
PRIOR APPLICATION NUMBER: PCT/US99/28313
PRIOR APPLICATION NUMBER: PCT/US99/28313
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OR APPLICATION NUMBER: PCT/US00/14042
OR FILING DATE: MAY 22, 2000
OR APPLICATION NUMBER: PCT/US00/20710
OR APPLICATION NUMBER: PCT/US00/32678
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APPLICATION NUMBER: PCT/US99/21090
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/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA2002.DAT:
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1985.599 Million cell updates/sec
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

P. patens signal t	AAU11619	23		1.2	14	10
Novel human diagno	ABG13670	22		1.8	22	9
Human lipid metabo	ABB08001	23		1.9	23	8
Human phosphatidyl	AAE14673	23	787	1.9	23	7
	ABG13669	22		1.9	23	6
Human protein sequ	AAB95125	22		1.9	23	5
Human DITHP polype	ABG59980	23		6.9	83	4
Human lipid metabo	AAU77498	23		30.7	371	ω
Human lipid metabo	ABB07493	23		50.8	613	N
Human lipid metabo	ABB08205	23		82.5	996	,_
Description	ID		Query Match Length DB	Query Match	Score	Result

4.5	44	43	42	41	40	39	38	37	36	ω G	34	<u>ω</u>	32	31	30	29	28	27	26	25	24	23	22	21	20.	19	18	17	16	15	14	13	12	11
10	10	10	11	11	11	11	11	11	11	11	11	11	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13	13	13
	•	٠	•	•	0.9	•	•						1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	٠	•	1.0		•	•	1.0	1.1	1.1	1.1	1.1	1.1	1.1
332	229	156	1898	1809	1579	806	595	541	541	254	237	237	1216	1216	1058	828	785	762	762	762	759	731	666	639	567	340	306	102	214	214	119	119	119	119
22	23	22	23	22	23	22	23	22	22	22	22	22	23	22	22	23	23	23	23	22	23	23	22	22	22	22	22	22	22	22	22	22	22	22
ABB11342	ABG66716	AAE05974	ABB07352	AAE13101	ABG66735	AAB94052	ABB04327	AAU22936	AAU87205	ABB11191	AAU23567	AAU87515	ABB08204	ААМ79193	AAM80177	ABB08008	AAE14269	AAE14268	AAU76816	AAE10440	AAE14270	ABB07492	ABG12052	AAB94695	AAE11925	AAE11930	AAB94419	AAE13105	AAM43569	AAU87352	AAM43643	AAU17072	ABB17239	AAU87634
Human phospholipas	Human novel polype	Rat phosphoinositi	Amino acid sequenc	Human phospholipas	Human novel polype	Human protein sequ	Human phosphoester	Novel human enzyme	Novel central nerv	Human pancreas pho	Novel human enzyme	Novel central nerv	Human lipid metabo	Human protein SEQ	Human protein SEQ	Human lipid metabo	Human phospholipas	Human phospholipas	Human phospholipas	Novel human phosph	Human phospholipas	Human lipid metabo	Novel human diagno	Human protein sequ	Human CG121 (or C5	Human CG121 (or C5	Human protein sequ	Human PLC 16836 pr	-	Novel central nerv	Human polypeptide	. signal 1	nervous	Novel central nerv

## ALIGNMENTS

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RESULT 1
ABB08205
ABB08205 standard; Protein; 1239
                                                               04-MAR-2002 (first entry)
                                                                    ABB08205;
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Human lipid metabolism enzyme-5 (LME-5).

Human; LME-5; lipid metabolism enzyme-5; cytostatic; neuroprotective; immunosuppressive; anti-inflammatory; cardiovascular; gene therapy; enzyme therapy; enzyme therapy; enzyme therapy; enzyme therapy; enzyme therapy; inflammatory disorder; cardiovascular disorder.

Homo sapiens.

WO200185956-A2

15-NOV-2001.

11-MAY-2001; 2001WO-US15210

11-MAY-2000; 2000US-203511P. 25-MAY-2000; 2000US-207903P. 07-JUN-2000; 2000US-210150P. 23-JUN-2000; 2000US-213392P.

(INCY-) INCYTE GENOMICS INC

Khan FA, Ding L, Das D, Reddy R, Yao MG, Nguyen DB, Lu Y, A, Gandhi AR, Au-young J, Lal P, Ke , Thornton M; Kearney L, Tribouley CM, Yue Farney L, Elliott VS;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 1; Page 114-116; 122pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          244 EADTDDHQGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     212 EADTDDHOGTLGFEEFCAFYKMMSTRRDLYLLMLTYSNHKDHLDAASLQRFLQVEQKMAG 271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  letect single nucleotide polymorphisms.
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                        QPFWNAGCQMVALNYQSEGRWLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNSEDPLPGQ 751
                                                                                                                   VATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNP
                                                                                                                                                                                                            VVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FKDVIETINKYAFIKNEYPVILSIENHCSVIQQKKMAQYLTDIIGDKLDLSSVSSEDATT 451
QPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNSEDPLPGQ
                                                                                        VATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRFNQQQLSRIYPSSYRVDSSNYNP
                                                                                                                                                                                    VVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTMKLSRALSDLVKYTKS
                                                                                                                                                                                                                                                                                 TAKRKLDSLIKESKIRDCEDPNNFSVSTLSPSGKLGRKSKAEEDVESGEDAGASRRNGRL
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14-JUL-2000;
21-JUL-2000;
26-JUL-2000;
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                    WPI; 2002-164631/21
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                                                                                                                                                                                                                                                                                                                            Lipid metabolism molecule; LMM; cytostatic; nootropic; neuroprotective; anticonvulsant; immunosuppressive; anti-inflammatory; dermatological; cardiovascular; antiHIV; antiemetic; antiallergic; hypertensive; human;
                                                                                                                                                                                                                                                                                                                                                                               Human lipid metabolism molecule (LMM) polypeptide (ID:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABB07493 standard; Protein;
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                                                Elliott
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                                                           Gandhi AR,
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                                                     Azimzai Y, Das
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2000US-216803P.
2000US-218233P.
2000US-220046P.
2000US-220739P.
2000US-222824P.
                                             Patterson
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Khan FA, Lu
                                            nton M, Lu DAM, Trii
n FA, Lu Y, Yao MG,
Ramkumar J, Nguyen I
                                          Nguyen DB,
                                                                    Tribouley CM;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 1; Page 112-113; 128pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          skin and
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  182
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YLLMLTYSNHKDHLDAASLQRFLQVEQKMAGVTLESCQDIIEQFEPCPENKSKGLLGIDG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LVRFYYLDEHRSCIRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRYPDGSFDPNCCFSI 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LVRFYYLDEHRSCIRWRPSRKNEKAKISIDSIQEVSEGRQSEVFQRYPDGSFDPNCCFSI 120
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                                                                                                                                                                                                                                                                                                                                                           VIQOKKMAQYLTDILGDKLDLSSVSSEDATTLPSPQMLKGKILVKGKKLPANISEDAEEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGCRCVEVDCWDGPDGEPIVHHGYTLTSKILFKDVIETINKYAFIKNEYPVILSIENHCS
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                                                                                                                                                                                                                                                     EVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTL
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SPGGQSRGATRQK 613
                                                                           SPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQD
                                                                                                                                           SPSGKLGRKSKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQD
                                                                                                                                                                                                                   EVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
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08-SEP-2000;
15-SEP-2000;
29-SEP-2000;
                                                                                                                                                                                      The present invention relates to the isolation of human lipid metabolism enzymes (LMM) designated LMM-1 to LMM-6, and the polynucleotide sequences encoding them. The LMM polypeptides, polynucleotides agonists and antagonists are useful for diagnosing, treating or preventing disorders associated with aberrant expression of LMM, particularly immune system disorders (e.g. acquired immunodeficiency syndrome (ALDS), thymic hypoplasia, anaemia, asthma or Crohn's disease), neurological disorders (e.g. epilepsy, Huntington's disease, dementia or Parkinson's disease), developmental disorders (e.g. Down's syndrome) or cell proliferative disorders (e.g. cancers including adenocarcinoma, leukaemia, lymphoma, melanoma, myeloma or sarcoma). The present sequence represents human LMM-6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; lipid metabolism enzyme; LMM-6; immune system disorder; neurological disorder; developmental disorder; cancer; nootropic; cell proliferative disorder; immunomodulator; neuroprotective;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAU77498 standard; Protein; 1619 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                   New lipid metabolism enzymes, useful for diagnosing, treating or preventing immune system disorders (e.g. Crohn's disease), neurological disorders (e.g. Parkinson's disease), or cell proliferative disorders
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                                                      1154
                                                                                                                                                                                                                                                                                                                                                                              Claim
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                                                                                                                                                                                                                                                                                                                                                                                                       (e.g. cancers)
                                                                                                                                                                  Sequence
                          610 TRQKKTMKLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRF 669
SKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGA 609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2002-280936/32.
                                                      SKAEEDVESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGA 1213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NK,
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                                                                                                                                                                                                                                                                                                                                                                              Page 113-117; 122pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hafalia AJA,
                                                                                                                                                                   1619 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; 2000US-227429P.
; 2000US-231370P.
; 2000US-233212P.
; 2000US-236885P.
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                                                                                                             Conservative
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Ding L, Tribouley
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06-SEP-2000;
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06-SEP-2000;
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06-SEP-2000;
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06-SEP-2000;
                                                                                                                                                                                                                    05-SEP-2000;
05-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                    Human; DITHP; diagnostic and therapeutic polypeptide; bone; testis; skin; cell proliferative disorder; cancer; tumour; autoimmune disorder; brain; inflammatory disorder; viral infection; bacterial infection, seizure; fungal infection; parasitic infections; developmental disorder; breast; endocrine disorder; metabolic disorder; neurological disorder; cervix; gastrointestinal disorder; transport disorder; gene therapy; kidney;
                                                                     06-SEP-2000;
                                                                                                                                                                                                                                           05-SEP-2000;
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INCYTE
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                                                                                                        2000US-230518P.
2000US-230519P.
2000US-230595P.
2000US-230597P.
2000US-230598P.
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2000US - 229750P.
2000US - 229751P.
2000US - 239583P.
2000US - 239514P.
2000US - 239514P.
2000US - 239517P.
                                                          2000US-230988P.
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2000US-230610P.
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2000US-229748P
                                                                       2000US-230865P.
                                                                                                                                                                                                                                                                                                     2001WO-US27127.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
GENOMICS
                                                                                                                                                                                                                                                                                                                                                                                                           marrow; lung; ovary; pancreas; prostate; spleen;
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29-JUL-1999; 27-AUG-1999; 11-JAN-2000; 02-MAY-2000; 09-JUN-2000;

2000JP-0118776. 2000JP-0183767. 2000JP-0241899.

99JP-0300253 99ЛР-0248036

HELIX RES

28-JUL-2000; 07-FEB-2001.

2000EP-0116126

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cell proliferative disorders (e.g. atherosclerosis, cirrhosis), cancers (e.g. thmours of the adrenal gland, bone, bone marrow, brain, breast, cervix, kidney, lung, ovary, pancreas, prostate, skin, spleen, testis or thymus), autoimmune/inflammatory disorders (e.g. asthma, bronchitis, psoriasis, osteoporosis), viral infections, bacterial infections, fungal infections, parasitic infections, developmental disorders (e.g. anaemia, epilepsy), seizure disorders (e.g. cerebral palsy, spina bifida), endocrine disorders (e.g. thrombosis, aneurysm), metabolic disorders (e.g. obesity, diabetes), neurological disorders (e.g. stroke, amyotrophic lateral sclerosis, multiple sclerosis), gastrointestinal disorders (e.g. ulcerative colitis, lysinuria) and transport disorders (e.g. myotonic dystrophy, catatonia, peripheral neuropathy). Sequences (e.g. myotonic dystrophy, catatonia, peripheral neuropathy).
                                                                                                                                                                          EP1074617-A2
                                                                                                                                                                                                                                    Human; primer;
                                                                                                                                                                                                                                                                  Human protein sequence SEQ ID NO:17124.
                                                                                                                                                                                                                                                                                                26-JUN-2001
                                                                                                                                                                                                                                                                                                                               AAB95125;
                                                                                                                                                                                                                                                                                                                                                       AAB95125 standard; Protein; 466 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention relates to human diagnostic and therapeutic (dithp) polynucleotides and their associated polypeptides (DITHP polypeptides). The sequences of the invention are used in the treatment and diagnosis of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        An isolated polynucleotide useful in diagnostics and therapeutics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gerstin EH,
Marwaha R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; ABK71572.
                                                                                                                                                                                                                                                                                                                                                                                                                                  156 VHHGYTLTSKILFKDVIETINKY 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                  380 VHHGYTLTSKILFKDVIETINKY 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Momiyama MG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Jones AL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Stuart J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2002-383054/41.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    83;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lincoln SE, Altus CM, Dufour LD, Yap PE, Yu JY, Wright RJ, Gietzen D, Liu TF, Yap PE, Go, Bradley DL, Rohatgi SD, Harris B, Roseberr A, Peralta CH, David MH, Panzer SR, Flores V, Chang SC, Au AP, Inman RR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Page 554; 686pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                178 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                             detection; diagnosis; antisense therapy; gene therapy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6.9%; 5-
100.0%; Pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 83;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 23; I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Liu TF, Yap ru,
Tiu TF, Yap ru,
Daff
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hillman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of an oligonucleotide comprising a sequence complementary to the complementary strand of a polynucleotide which comprises a 5'-end cc complementary strand of a polynucleotide which comprises a 5'-end cc polynucleotide which comprises a 3'-end sequence complementary to a cc polynucleotide which comprises at least 15 nucleotides and the combination of ct the 5'-end sequence/3'-end sequence is selected from those defined in cc the specification. The primer sets can be used in antisense therapy and ci gene therapy. The primers are useful for synthesising polynucleotides, cc particularly full-length cDNAs. The primers are also useful for the cdetection and/or diagnosis of the abnormality of the proteins encoded by the full-length cDNAs. The primers allow obtaining of the full-length cC cDNAs easily without any specialised methods. AAH03166 to AAH13628 and ca AAH3633 to AAH18742 represent human cDNA sequences; AAB92446 to CC represent oligonucleotides, all of which are used in the exemplification.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present invention describes primer sets for synthesising 5602 full-length cDNAs defined in the specification. Where a primer set comprises: (a) an oligo-dT primer and an oligonucleotide complementary to the complementary strand of a polynucleotide which comprises one of the 5602 nucleotide sequences defined in the specification, where the oligonucleotide comprises at least 15 nucleotides; or (b) a combination
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Primer sets for synthesizing polynucleotides, particularly the 5602 full-length cDNAs defined in the specification, and for the detection and/or diagnosis of the abnormality of the proteins encoded by the full-length cDNAs -
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABG13669 standard; Protein; 787 AA
                                                                                                                                                                                                                                                                                                                WO200175067-A2
                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel human diagnostic protein #13660
                                                                                         31-MAR-2000; 2000US-0540217
23-AUG-2000; 2000US-0649167
                                                                                                                                                                                  30-MAR-2001; 2001WO-US08631.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             821 VHMPEIALVRFLVWDHDPIGRDF 843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     251 VHMPEIALVRFLVWDHDPIGRDF 273
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                                                                                                                                                                                                                                                                                                                                                                                                                                       supplement;
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3, Sugiyama '
                                                                                                                                                                                                                                                                                                                                                                                                                                       chromosome mapping; gene mapping;
upplement; medical imaging; diagnos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                             HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQ ID 17124;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          466 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nishikawa T,
T, Wakamatsu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.9%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hayashi K,
ı A, Nagai K
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                       apping; gene therapy; forensic;
diagnostic; genetic disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nagai K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 22; I
3.7e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Saito K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Otsuki T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 466;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
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RESULT 7
AAE14673
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to isolated polynucleotide (I) and CC polypeptide (II) sequences. (I) is useful as hybridisation probes, CC polymerase chain reaction (PCR) primers, oligomers, and for chromosome CC and gene mapping, and in recombinant production of (II). The CC and gene mapping, and in recombinant production of (II). The CC polynucleotides are also used in diagnostics as expressed sequence tags for identifying expressed genes. (I) is useful in gene therapy techniques CC for restore normal activity of (II) or to treat disease states involving CC (II). (II) is useful for generating antibodies against it, detecting or CC quantitating a polypeptide in tissue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical CC imaging of sites expressing (II). (I) and (II) are useful for treating CC disgorders involving aberrant protein expression or biological activity. CC The polypeptide and polynucleotide sequences have applications in CC diagnostics, forensics, gene mapping, identification of mutations CC and to produce other types of data and products dependent on DNA and CC and to produce other types of data and products dependent on DNA and CC and to produce other types of data and products dependent on DNA and CC amino acid sequences of the invention.

CC Note: The sequence data for this patent did not appear in the printed capteristation, but was obtained in electronic format directly from WIPO at the print of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 20; SEQ ID No 44028; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
                                                                                                                                                                                                                                                                                Human; phosphatidylinositol-specific phospholipase C-like enzyme; pI-PLC-like enzyme; chromosome 3; asthma; cancer; central nervous system; CNS disorder; Parkinson's disease; dementia; COPD; protein therapy; chronic obstructive pulmonary disease; gene therapy; vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         biodiversity
                                                                                                                                                                                                                                                                                                                                                                                     Human phosphatidylinositol-specific phospholipase C-like enzyme.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAE14673 standard; Protein; 787 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                              26-JUL-2002 (first entry)
                                  (FARB ) BAYER AG
                                                                             27-SEP-2000; 2000US-235552P
                                                                                                                    24-SEP-2001; 2001WO-EP11012
                                                                                                                                                             04-APR-2002
                                                                                                                                                                                                  WO200226996-A2
                                                                                                                                                                                                                                           Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   584 VHMPEIALVRFLVWDHDPIGRDF 606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          821 VHMPEIALVRFLVWDHDPIGRDF 843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tang YT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 23;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 22; I
. 6.1e-14;
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C phosphatidylinositol-specific phospholipase C-like enzyme
(PI-FLC-like enzyme). Human PI-FLC-like enzyme gene is located on
C chromosome 3. The PI-FLC-like enzyme polypeptide and
C polynucleotide may be used in the prevention, diagnosis and
Treatment of diseases associated with enzyme dysfunction,
C e.g. asthma, cancer, central nervous system (CNS) disorder (e.g.
C Parkinson's disease, dementia) and chronic obstructive pulmonary disease
(COOPD). The polynucleotide and polypeptide may be used to treat
C disorders associated with decreased PI-FLC-like enzyme expression by
rectifying mutations or deletions in a patient's genome that affect the
3C activity of PI-FLC-like enzymes, by expressing inactive proteins or to
Supplement the patients own production of PI-FLC-like enzymes.
The polynucleotide and its complements may also be used
The polynucleotide and its complements may also be used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                 13-OCT-2000;
02-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              as DNA probes in diagnostic assays to detect and quantitate the presence of similar nucleic acids in samples. The PI-PLC-like enzymes may also be used as antigens in the production of antibodies and in assays to identify modulators of PI-PLC-like enzyme expression and activity. The anti-PI-PLC-like enzyme antibodies and the enzyme and as diagnostic agents for detecting the presence of PI-PLC-like enzyme in samples. The present sequence is human phosphatidylinositol-specific phospholipase C-like enzyme.
08-NOV-2000;
                                                   06-OCT-2000;
                                                                                       )5-OCT-2001; 2001WO-US31302.
                                                                                                                                                                                                                                  jene therapy;
                                                                                                                                                                                                                                           juman; lipid metabolism enzyme; IME; cytostatic; neuroprotective;
jootropic; cerebroprotective; antiparkinsonian; antialzheimers; vaccine;
intisclerotic; antimicrobial; anti-AIDS; cardiovascular; antianginal;
                                                                                                                                                               O200229036-A2
                                                                                                                                                                                                   lomo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                    ABB08001 standard; Protein; 1014 AA.
                                                                                                                                                                                                                                                                                                                                                                                                   (10080aH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               584
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Isolated polynucleotides encoding human phosphatidylinositol-specific phospholipase C-like enzymes, useful for preventing, diagnosing and treating e.g. asthma, cancer, a CNS disorder or chronic obstructive
                                                                                                                                                                                                                                                                                                                   uman lipid metabolism enzyme (LME)-1 (Id: 7472210CD1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 25; Fig 2; 125pp; English.
                                                                                                                             1-APR-2002.
                                                                                                                                                                                                                                                                                                                                                                 7-AUG-2002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local
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 2000US-247503P
             2000US-240616P.
2000US-245719P.
                                                   2000US-238388P
                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                  protein therapy; enzyme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 23;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 23; Length 787; 6.le-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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DT PT PT T
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        encoding polynucleotides. The LMEs can be expressed by standard recombinant technology. The LME polypeptides, polynucleotides and modulators may be used in the prevention, diagnosis and treatment of diseases associated with inappropriate LME expression such as cancer (e.g. myeloma, sarcoma and breast cancer), neurological disorders (e.g. Parkinson's, Alzheimer's and multiple sclerosis), microbial infections (e.g. Creutzfeld-Jakob disease and Acquired Immune deficiency syndrome (AIDS)) and/or cardiovascular disorders (e.g. cardiomyopathy, angina pectoris and mitral valve prolapse). The present sequence represents
                                      N-PSDB; AAS77857
                                                                          Drmanac RT, Liu C,
                                                                                                                                           31-MAR-2000; 2000US-0540217
                                                                                                                                                                    30-MAR-2001; 2001WO-US08631.
                                                                                                      (HYSE-) HYSEQ
                                                                                                                                23-AUG-2000;
                                                                                                                                                                                                                        WO200175067-A2
                                                                                                                                                                                                                                                                                     Human; chromosome mapping;
                                                                                                                                                                                                                                                                                                            Novel human diagnostic protein #13661.
                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                         food supplement;
                                                                                                                                                                                                                                                                                                                                        18-FEB-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                           ABG13670 standard; Protein; 682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to human lipid metabolism enzymes (LMEs) and encoding polynucleotides. The LMEs can be expressed by standard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 1; Page 110-113; 127pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Lipid Metabolism Enzymes and nucleic acids, useful for preventing, diagnosing and treating e.g. cancer, Alzheimer's disease and Creutzfeld-Jakob disease -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Harland L, AL. NK, Yao MG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       821 VHMPEIALVRFLVWDHDPIGRDF 843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17-NOV-2000; 2000US-249503P
                                                                                                                                                                                                                                                                                                                                                                                                                                                            811 VHMPEIALVRFLVWDHDPIGRDF 833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (INCY-) INCYTE GENOMICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local
                                                 2001-639362/73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2002-315862/35.
DB; ABL60537.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tribouley CM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1014 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Arvizu C,
                                                                                                                              2000US-0649167
                                                                                                                                                                                                                                                                      e mapping; gene mapping; gene therapy; forensic
medical imaging; diagnostic; genetic disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1.9%; J
100.0%; Pr
'''a 0;
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                                                                           ΥT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Elliott VS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 23;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Griffin JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 23;
7.7e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JA, Baughn
Thangavelu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1014;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              K, MR
                                                                                                                                                                                                                                                                                  forensic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ding L;
Ramkumar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
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0;

diagnostics,

New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations

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RESULT 10
AAU11619
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (II). (II) is useful for generating antibodies against it, detecting or quantitating a polypeptide in tissue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical imaging of sites expressing (II). (I) and (II) are useful for treating disorders involving aberrant protein expression or biological activity. The polypeptide and polynucleotide sequences have applications in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits to assess biodiversity and to produce other types of data and products dependent on DNA and amino acid sequences. ABG00010-ABG30377 represent novel human diagnostic amino acid sequences of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The polynucleotides are also used in diagnostics as expressed sequence tags for identifying expressed genes. (I) is useful in gene therapy techniques to restore normal activity of (II) or to treat disease states involving to restore normal activity of (II) or to treat disease states involving
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to isolated polynucleotide (I) and polypeptide (II) sequences. (I) is useful as hybridisation probes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                responsible for genetic disorders or other traits and to assess biodiversity \,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Signal transduction stress-related protein; STSRP; PLC-1; PLC-2; 14-3-3P-1; 14-3-3P-2; CBP-1; phospholipase C; Ca2+ binding protein; transgenic plant; environmental stress; salinity; drought;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Note: The sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P. patens signal transduction stress-related protein PLC-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAU11619 standard; Protein; 1054 AA
Costa Silva EO,
                                       (BADI ) BASF PLANT SCI GMBH.
                                                                                  07-APR-2000;
                                                                                                                              06-APR-2001; 2001WO-US11398
                                                                                                                                                                                                                   WO200177355-A2
                                                                                                                                                                                                                                                                                                        Misc-difference
                                                                                                                                                                                                                                                                                                                                             Misc-difference 126
                                                                                                                                                                                                                                                                                                                                                                                                               Physcomitrella patens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAU11619;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      775 GDRGEIIDPFVEVEIIGLPVDC 796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 64 GDRGEIIDPFVEVEIIGLPVDC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20; SEQ ID No 44029; 103pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           682 AA;
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                                                                                       2000US-196001P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
Bohnert HJ,
                                                                                                                                                                                                                                                                                                      420..105
                                                                                                                                                                                                                                                          /note= "Region not encoded by the cDNA sequence
appearing as AAS17965"
                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                             'note= "Encoded by CAG"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1.8%; 500
100.0%; Pr
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Pred. No.
Van Thielen N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .6e-13;
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Chen R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 682;
  Ishitani
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0,
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31-JAN-2000; 2000US-0179065 17-JAN-2001; 2001WO-US01332. WO200155318-A2

Homo sapiens food additive; hyperproliferative disorder; neoplasm; cardiovascular disorder; cardiac arrest; cerebrovascular disorder; ischaemia; angiogenesis; cardiac arrest; cerebrovascular disorder; ischaemia; angiogenesis; nervous system disorder; Alzheimer's disease; AIDS; ocular disorder; acquired immunodeficiency virus; dysphagia; gastrointestinal disorder; adenocarcinoma; reproductive system disorder; testicular feminisation; endocrine disorder; diabetes; cancer; leukaemia; neovascularisation;

Central nervous system; CNS; autoimmune disease; rheumatoid arthritis;

Novel central nervous system protein #544.

05-JUN-2002

(first entry)

endocrine disorder; diabetes; cancer; leukaemia; neovascularisation; respiratory disorder; renal disorder; kidney fallure; blood disorder myocardial infarction; wound healing; cell proliferation; skin aging

food preservative;

gene therapy.

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Query Match
Best Local Similarity
"~+~hes 14; Conserv?
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                    AAU87634
                                           RESULT 11
                                                                                                                                                                                                                                                                                                                                           as compared to a wild type variety of the plant cell, a nucleic acid encoding an STSRP, and an expression vector comprising the nucleic acid. The STSRP and nucleic acids are useful for increasing tolerance to environmental stress selected from salinity, drought and low temperature, in transgenic plants including monocot and dicot selected from maize, wheat, rye, oat, triticale, rice, barley, soybean, peanut, cotton, rapeseed, canola, manihot, pepper, sunflower, tagetes, solanaceous plants, potato, tobacco, eggplant, tomato, Vicia species, pea, alfalfa, coffee, cacao, tea, Salix species, oil palm, coconut, perennial grass and forage crops. The nucleic acid is also useful for identifying organisms e.g. Physocomitrella patens in a mixed population of microorganisms, for evolutionary and protein structural studies and are useful as markers for specific regions of the genome. The present sequence represents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (STSRP) isolated from Physcomitrella patens, and selected from Phospholipase C (PLC)-1 protein, PLC-2 protein, 14-3-3 protein (14-3-3p)-1, 14-3-3p-2 and Ca^2^+ Binding Protein (CBP)-1, or their orthologues. Also include are a transgenic plant transformed with an STSRP coding nucleic acid, where the expression of the nucleic acid in the plant cell results in increased tolerance to an environmental stress
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The invention relates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New polypeptide, useful for increasing tolerance to environmental stress, comprises a Signal Transduction Stress-Related Protein se from phospholipases, 14-3-3 proteins and calcium binding proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HPI;
                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 3; Fig 3A; 101pp; English.
AAU87634 standard; Protein; 119
                                                                                                            104 VHQDMTQPLSHYFI 117
                                                                                                                                                     320 VHQDMTQPLSHYFI 333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2002-049152/06.
                                                                                                                                                                                                                                                                                        1054 AA;
                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                      1.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          to a Signal Transduction Stress-Related Protein
                                                                                                                                                                                                   0;
                                                                                                                                                                                                                        Score 14; Pred. No.
                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                        DB 23; 1
                                                                                                                                                                                                                                                 23;
                                                                                                                                                                                                                                               Length 1054;
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04-FEB-2000

02-WAR-2000

02-MAR-2000

16-MAR-2000

17-MAY-2000

18-APR-2000

19-MAY-2000

19-MAY-2000

10-JUN-2000

10-JUN-2000

11-JUL-2000

11-JUL-2000

11-JUL-2000

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11-JUL-2000

11-AUG-2000

11-SEP-2000

11-SE
                2000US-0180628
2000US-0184644
2000US-0184564
2000US-0198173
2000US-0209467
2000US-0214886
2000US-0216847
2000US-0216847
2000US-0216847
2000US-0216847
2000US-0216867
2000US-0218296
2000US-0225266
2000US-0225266
2000US-0225266
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2000US-0225277
2000US-022526681
2000US-0225277
2000US-0223447
2000US-0223424
2000US-0231244
2000US-0231246
2000US-0231243
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01-DEC-2000
01-DEC-2000
05-DEC-2000
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02-OCT-2000
02-OCT-2000
03-OCT-2000
13-OCT-2000
20-OCT-2000
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20-OCT-2000
20-OCT-2000
20-OCT-2000
20-OCT-2000
20-OCT-2000
20-OCT-2000
20-OCT-2000
08-NOV-2000
New isolated nucleic acid encoding preventing, treating or amelionation additives or preservatives
                                                                                  WPI; 2001-581633/65
N-PSDB; ABK43964.
                                                                                                                                                                                 (HUMA-)
                                                                                                                                                                                                                   2000US-0249218

2000US-0249244

2000US-0249264

2000US-0249265

2000US-0249297

2000US-0249297

2000US-0250391

2000US-0250391

2000US-0255391

2000US-0256719

2000US-0256719

2000US-025581856

2000US-0251869

2000US-0251989

2000US-0251989

2000US-0251989
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2000US-0237039
2000US-0237039
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2000US-0241785
2000US-0241785
2000US-0241808
2000US-0241808
2000US-0244817
2000US-0244817
2000US-0246417
2000US-0246417
2000US-0246476
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2000US-0246476
2000US-0246523
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2000US-0246529
2000US-0246529
2000US-0246529
2000US-0246513
2000US-0246513
2000US-0246513
2000US-0249211
                                                                                                                                                                                 GENOME
                                                                                                                                           SC,
                      acid encoding a or ameliorating
                                                                                                                                                                               SCI INC
                                                                                                                                         SM;
                    protein for diagnosing, medical conditions and
                      used
                    as
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HORSE SERVICE 
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                anylogenesis, nervous system disorders e.g. Alzhelmer's disease and anylogenesis, nervous system disorders e.g. Alzhelmer's disease and anylogenesis, nervous system disorders e.g. Acquired immunodeficiency virus (AIDS) and fungi, ocular disorders e.g. corneal infection, gastrointestinal disorders e.g. dysphagia, cadenocarcinomas and irritable bowel syndrome, reproductive system adenocarcinomas and irritable bowel syndrome, reproductive system constructive system
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
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Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      e.g. cardiac arrest, cerebrovascular disorders e.g. cerebral ischaemia,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention describes an isolated nucleic acid molecule (I) encoding a novel central nervous system protein. (I) and polypeptides (III) encoded by (I), are used to treat a medical conditions and in diagnosis of a pathological condition. Disorders which are diagnosed or treated include
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 9; SEQ ID No 1152; 837pp; English.
24 FEB - 2000;

24 FEB - 2000;

02 MAR - 2000;

16 MAR - 2000;

17 - MAR - 2000;

18 - MPR - 2000;

19 - MAY - 2000;

07 - JUN - 2000;

30 - JUN - 2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         primary tissues, to regenerate tissues and in content, lipid, proting or decrease storage capabilities, fat content, lipid, protincrease or decrease storage capabilities.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     disorders e.g. neoplasms of the breast or liver,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             autoimmune diseases e.g. rheumatoid arthritis, hyperproliferative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention describes an isolated nucleic acid molecule (I) encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human; nootropic; neuroprotective; cytostatic; dermatological; virucide; immunosuppressive; antiinflammatory; anti-HIV; antibacterial; vulnerary; antiparkinsonian; antisickling; antianaemic; antiarthritic; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         antiheumatic; hepatotropic; cerebroprotective; antiinflammatory; antiallergic; antidiabetic; antiulcer; anticonvulsant; antifungal; antiparasitic; cardiant; immune disorder; cardiovascular disorder; antiparasitic; cardiant; immune disorder; cardiovascular disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABB17239 standard; Protein; 119 AA.
                                                                                                                                                                                                                                                   31-JAN-2000;
                                                                                                                                                                                                                                                                                                     17-JAN-2001; 2001WO-US01334.
                                                                                                                                                                                                                                                                                                                                                     16-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                       WO200159063-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         neurological
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human nervous system related polypeptide SEQ ID NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            23-JAN-2002
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53 YLMAGISDEDSLA 65
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                       2000US-0179065
2000US-0180628
2000US-0184664
2000US-0186350
2000US-0189174
2000US-0199076
2000US-0198123
2000US-0198123
2000US-0205515
2000US-0205467
2000US-0214886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         disease; infection;
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; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nephrotropic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 22; 1
0.00017;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene therapy; vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 119;
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             18-AUG-2000;
22-AUG-2000;
22-AUG-2000;
22-AUG-2000;
23-AUG-2000;
30-AUG-2000;
01-SEP-2000;
01-SEP-2000;
01-SEP-2000;
05-SEP-2000;
06-SEP-2000;
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08-SEP-2000;
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07-JUL-2000;
11-JUL-2000;
11-JUL-2000;
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14-SEP-2000;
21-SEP-2000;
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25-SEP-2000;
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26-SEP-2000;
27-SEP-2000;
27-SEP-2000;
29-SEP-2000;
29-SEP-2000;
29-SEP-2000;
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14-AUG-2000;
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02-OCT-2000;
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2000US-0233063.
2000US-0233064.
2000US-0233065.
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2000US-0236369.
2000US-0236370.
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2000US-0235834.
2000US-0235836.
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2000US-0224519
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2000US-0241785.
2000US-0241786.
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2000US-0231243.
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2000US-0229345
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2000US-0236367
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2000US-0234997
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2000US-0232398
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2000US-0237037
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The invention relates to novel genes (ABA11004-ABA21534) and proteins (ABB14678-ABB18001) useful for preventing, treating or ameliorating medical conditions e.g. by protein or gene therapy. The genes are isolated from a range of human tissues disclosed in the specification. The nucleic acids, proteins, antibodies and (ant)agonists are useful in the diagnosis, treatment and prevention of: (a) cancer, e.g. breast
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17-NOV-2000;
17-NOV-2000;
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17-NOV-2000;
17-NOV-2000;
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17-NOV-2000;
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17-NOV-2000;
17-NOV-2000;
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20-OCT-2000

20-OCT-2000

01-NOV-2000

08-NOV-2000

08-NOV-2000
                                                                                                                                    Nucleic acids encoding 3224 human nervous system antigen polypeptides, useful for preventing, diagnosing and/or treating nervous system
                                                                                                                                                                                                                                           HUMA-) HUMAN GENOME
                                                                                                                                                                                                                                                                                                                                                                                                                                  17-NOV-2000;
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17-NOV-2000;
                                                                                               laim 11; SEQ ID NO 5896; 1701pp + Sequence Listing; English.
                                                                                                                                                                                -PSDB;
       ovarian
                                                                                                                                                                                            2001-541565/60.
                                                                                                                                and
                                                                                                                                                                                ABA13565
                                                                                                                                                                                                                  Barash SC,
cancer and other cancers of the adrenal gland, bone,
                                                                                                                              metastases
                                                                                                                                                                                                                                                                                                                                                                                       2000US-0249216.

2000US-0249217.

2000US-0249214.

2000US-0249244.

2000US-0249245.

2000US-0249265.

2000US-0249297.

2000US-0249297.

2000US-0249297.

2000US-0249299.

2000US-0249299.

2000US-0249299.

2000US-0259391.

2000US-0259391.

2000US-0259393.
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2000US-0251990.
2000US-0254097.
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2000US-0256719.
2000US-0251479.
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2000US-0249210
2000US-0249211
2000US-0249211
2000US-0249213
2000US-0249213
2000US-0249214
2000US-0249215
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2000US-0246527
2000US-0246532
2000US-0246532
2000US-0246609
2000US-0246610
2000US-0246611
2000US-0246613
2000US-0246613
2000US-0246613
2000US-02469207
2000US-0249208
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2000US-0246523.
2000US-0246524.
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2000US-0246475.
2000US-0246476.
2000US-0246477.
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2000US-0241826.
2000US-0242221.
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                                                                                                                                                                                                                                           SCI INC
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RESULT 13
AAU17072
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                                      11-JUL-2000;
11-JUL-2000;
14-JUL-2000;
26-JUL-2000;
26-JUL-2000;
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07-JUL-2000;
07-JUL-2000;
                                                                                                                                                    19-MAY-2000;
07-JUN-2000;
28-JUN-2000;
                                                                                                                                                                                                  16-MAR-2000;
17-MAR-2000;
18-APR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                    antiinflammatory; anti-HIV; antibacterial; antiinflammatory; cancer; immune system disorder; rheumatoid arthritis; inflammatory condition; organ transplant rejection; infection; hepatitis C; blood disorder; sickle cell anaemia; hyperproliferative disorder; Gaucher's disease; neurodegenerative disorder; Alzheimer's disease; Parkinson's disease; chromosomal labnormality; Down syndrome; ischaemia; renal disorder; cardiovascular; respiratory; wound healing; endocrine; Addison's disease; reproductive system; gastrointestinal; liver disorder; AIDS;
                                                                                                                                                                                                                                             24-FEB-2000;
02-MAR-2000;
                                                                                                                                                                                                                                                                          31-JAN-2000;
04-FEB-2000;
                                                                                                                                                                                                                                                                                                                   17-JAN-2001;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Neuroprotective; cytostatic; dermatological; immunosuppressive; tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel signal transduction pathway protein, Seq ID 637.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         07-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAU17072;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAU17072 standard; Protein; 119 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        marrow, breast, gastrointestinal tract, liver, lung, or urogenital; (b) immune disorders e.g. Addison's disease, allergies, autoimmune haemolytic anæmia, autoimmune thyroiditis, diabetes mellitus, Crohn's disease, multiple sclerosis, rheumatoid arthritis and ulcerative colitis; (c) cardiovascular disorders such as myocardial ischaemias; (d) wound healing; (e) neurological diseases e.g. cerebral anoxia and epilepsy; and (f) infectious diseases such as viral, bacterial, fungal and parasitic infections.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Note: The sequence data for this patent did not form part of printed specification, but was obtained in electronic format
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                148 YLMAGISDEDSLA 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     from WIPO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 Similarity
13; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                     2000US-0190076.
2000US-0198123.
2000US-0205515.
2000US-0209467.
2000US-0214886.
2000US-0215135.
                     2000US-021647
2000US-021688
2000US-0217487
2000US-0217496
2000US-0217496
2000US-0218290
2000US-0220963
2000US-0220964
2000US-0220964
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2000US-0184664
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                              deficiency syndrome
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 13;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 22; 1
0.00017;
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14-AUG-2000; 14-AUG-2000; 14-AUG-2000;

2000US-0225214

14 - AUG 14 - AUG

2000US-0225447. 2000US-0225758. 2000US-0225758. 2000US-0225759. 2000US-0226279. 2000US-0226681. 2000US-0226688. 2000US-0227182. 2000US-0227182. 2000US-0228924.

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The invention relates to novel isolated polypeptides (I), and comply control of the polynucleotides (II), (II) and the antibody to (I) are useful for comply control of the polynucleotides (II), (II) and the antibody to (I) are useful for comply control of the polynucleotides (II), (II) and the antibody to (I) are useful for control of the polynucleotides (II), (II) and the antibody to (II) are useful for control of the polynucleotides and archititis, inflammatory conditions, organ control of the polynucleotides and graft versus host disease, infectious diseases (e.g. hepatitis (I)), bleeding disorders, hasmoglobin abnormalities and control of the polynucleotides (II) and the proposition of the polynucleotides (II) and the proposition of the polynucleotides (II) and the proposition of the polynucleotides (II) and the polynucleotides (III) and the polynucleotides (III) and th
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17-NOV-2000
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08-DEC-2000
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17-NOV-2000;
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17-NOV-2000;
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17-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                              Novel polypeptides useful for diagnosing, treating, preventing and/or prognosing disorders related to the proteins, including cancers, immune disorders and neuronal disorders -
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N-PSDB; AAS26989.
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                                                                                                                                                                                                                                                                                                                                                                         1; SEQ ID No 637; 880pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CA,
  (inflammatory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Barash SC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0246611

2000US-0246213

2000US-0249209

2000US-0249210

2000US-0249211

2000US-0249211

2000US-0249211

2000US-0249213

2000US-0249213

2000US-0249213

2000US-0249216

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2000US-0246532
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  disorders),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ruben
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  liver disorders
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14-SEP-2000; 14-SEP-2000; 14-SEP-2000;

2000US-0234997. 2000US-0234998.

14-SEP-2000;
21-SEP-2000;
21-SEP-2000;
25-SEP-2000;
25-SEP-2000;
26-SEP-2000;
27-SEP-2000;
29-SEP-2000;
20-OCT-2000;
20-OC

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08-SEP-2000; 12-SEP-2000; 14-SEP-2000; 14-SEP-2000; 14-SEP-2000;

2000US-0229287 2000US-0229344 2000US-0229345 2000US-0229509 2000US-0229513 2000US-0239513 2000US-0231242 2000US-0231243 2000US-0231243 2000US-0231413 2000US-0231414 2000US-0231414 2000US-0231414 2000US-0231411 2000US-0231411 2000US-0231414 2000US-0231413 2000US-0231413 2000US-0231413 2000US-0231414 2000US-0231413 2000US-0231413 2000US-0231413 2000US-0231414 2000US-0231413 2000US-0231413 2000US-0231413 2000US-0231414 2000US-0232081 2000US-0232081 2000US-0233063 2000US-0233063 2000US-0233063 2000US-0233063 2000US-0233063 2000US-0233063 2000US-0233063 2000US-0233063 2000US-0233063 2000US-0233063

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RESULT 14
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28 - JUN - 2000

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                                                                                                                                                                                    26-JUL-2000;
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                                                                                                                                                                                                                         11-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human; antiarthritic; antirheumatic; antiproliferative; vasotropic; cerebroprotective; nootropic; neuroprotective; antibacterial; virucide; fungicide; ophthalmological; cytostatic; immunosuppressive; nootropic; neuroprotective; antiallergic; hepatotropic; antidiabetic; antiinflammatory; antiulcer; vulnerary; anticonvulsant; antibacterial; antiparasitic; cardiant; gene therapy; cancer; immune disorder;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                antiparasitic; cardiant;
cardiovascular disorder;
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2000US-0231242
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                                                                                                                    bone, bone marrow, breast, gastrointestinal tract, liver, lung, or urogenital; (b) immune disorders e.g. Addison's disease, allergies, autoimmune haemolytic anaemia, autoimmune thyroiditis, diabetes mellitus, Crohn's disease, multiple sclerosis, rheumatoid arthritis and ulcerative colitis; (c) cardiovascular disorders such as myocardial ischaemias; (d) wound healing; (e) neurological diseases e.g. cerebral anoxia and epilepsy; and (f) infectious diseases such as viral, bacterial, fungal and parasitic infections.

Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17-NOV-2000
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                                                                                                                                                                                                                                                                               the encoded proteins (AAM434497-AAM43660) useful for preventing, treating or ameliorating medical conditions e.g. by protein or gene therapy. The genes were isolated from a range of human tissues disclosed in the specification. The nucleic acids, proteins, antibodies and (ant)agonists are useful in the diagnosis, treatment and prevention of: (a) cancer, e.g. breast and ovarian cancer and other cancers of the adrenal gland, bone, bone marrow, breast, gastrointestinal tract, liver, lung, or
                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 11; SEQ
                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                          New isolated nucleic acids and polypeptides, useful for diagnosing, treating and/or preventing human diseases and disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB; AAI63949.
                                                                                                                                                                                                                                                                                                                                                                             The invention relates to human polynucleotides (AAI63803-AAI64012) and the encoded proteins (AAM434497-AAM43660) useful for preventing, treat.
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148 YLMAGISDEDSLA 160
                               Local Similarity
les 13; Conserv
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                                                                                            119 AA;
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2000US-0249213
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07-JUN-2000;
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2000US-02259447
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2000US-0249244.
2000US-0249245.
                                                                                                                                                                                                                      2000US-0251990
2000US-0254097
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2000US-0256719
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Barash SC, Ruben SM;

WPI; 2001-581633/65.

N-PSDB; ABK43682.

New isolated nucleic acid encoding a protein for diagnosing, preventing, treating or ameliorating medical conditions and used as food additives or preservatives -

Claim 9; SEQ ID No 870; 837pp; English.

disorders e.g. neoplasms of the breast or live, cardiovascular disorders c.g. cardiac arrest, cerebrovascular disorders e.g. carebral ischaemia, cangiogenesis, nervous system disorders e.g. Alreimer's disease and camylotrophic lateral sclerosis, infections caused by bacteria, viruses c.g. acquired immunodeficiency virus (AIDS) and fungi, ocular disorders c.g. corneal infection, gastrointestinal disorders e.g. dysphagia, c.g. adenocarcinomas and irritable bowel syndrome, reproductive system c.g. disorders e.g. testicular feminisation, endocrine disorders e.g. diabetes c.g. and pituitary dwarfism, cancers and disorders at the cellular level e.g. creapiratory disorders e.g. nonallergic rhinitis, renal disorders e.g. creapiratory disorders e.g. nonallergic rhinitis, renal disorders e.g. caute kidney failure and blood related disorders e.g. myocardial confarction. The polypeptides can also be used to aid wound healing and epithelial cell proliferation, to prevent skin aging due to sumburn, to maintain organs before transplantation, for supporting cell culture of polypeptides can also be used as a food additive or preservative to The invention describes an isolated nucleic acid molecule (I) encoding a novel central nervous system protein. (I) and polypeptides (III) encoded by (I), are used to treat a medical conditions and in diagnosis of a pathological condition. Disorders which are diagnosed or treated include autoimmune diseases e.g. rheumatoid arthritis, hyperproliferative increase or decrease storage capabilities, fat content, lipid, protein,

Matches Query Match Best Local : l Similarity 13; Conserv Conservative 1.1%; but 100.0%; Pred. No. u. 11ve 0; Mismatches DB 22; 0.00031; Length 214; Indels 0; Gaps

0;

δõ 148 YLMAGISDEDSLA 160 ||||||||||||| 89 YLMAGISDEDSLA 101

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Search completed: March 28, 2003, 14:02:24 Job time: 88 secs

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OM protein - protein search, using sw model
                                                                                           GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
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Run on: March 28, 2003, 14:00:21; Search time 54 Seconds (without alignments) 2148.782 Million cell updates/sec

Title: Perfect score:

US-09-927-112-2 1207 1 MAPPTAGPLPGPALPPEDPG.....ALYPWHCLRGTLLPWLACGP 1207

Scoring table: OLIGO Gapop 60.0 , Gapext 60.0

Searched: 283224 segs, 96134422 residues

Word size : 0

Total number of hits satisfying chosen parameters: 283224

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Listing first 45 summaries

Database : pir1:\*
pir2:\*
pir3:\*
pir4:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length 764	3 1   B	ID S14113	٧ .
ω Ν	12	1.0	913 1181	NN	T46339 A43346	hypothetical prote 1-phosphatidylinos
4.	12	1.0	1210	N	A48001	phospholipase C (E
CT.	12	1.0	1211	N	S68251	phospholipase C, i
6	12	1.0	1216	N	A28822	1-phosphatidylinos
7	12		1216	N	A28821	1-phosphatidylinos
œ	11		1898		T42440	phospholipase C ho
9	11		1922		T21581	hypothetical prote
10	10		756		B28821	4
11	10	0.8	801		A44165	$\sim$
12	10		895		T32374	
13	10	0.8	896		T27376	hypothetical prote
14	10		997		I54390	phosphoinositide-s
15	10	0.8	1096	ب	S62358	inositol 1,4,5-tri
16	9	0.7	489	_	A53766	phosphoinositide-s
17	9	0.7	596	ν	T07421	phosphoinositide-s
18	9	0.7	829	Ν	T33283	hypothetical prote
19	9	0.7	1095	_	A31225	
20	9	0.7	1176	_	A48047	phospholipase C (E
21	9	0.7	1236	_	A53970	1-phosphatidylinos
22	9	0.7	1290	2	A31317	1-phosphatidylinos
23	9	0.7	1290	2	A36466	1-phosphatidylinos
24	9	0.7	1291	N	S00666	~
25	9	0.7	1299	N	T24299	hypothetical prote
26	9	0.7	1418	N	T37264	m
27	9	0.7	3122	Ŋ	T17202	DNA-directed DNA p
28	8	0.7	164	N	T08749	hypothetical prote
29	œ	0.7	208	N	G84086	dihydrodipicolinat

hypothetical protein DKFZp434A0814.1 - human (fragment)
C;Species: Homo sapiens (man)
C;Date: 04-Feb-2000 #sequence\_revision 04-Feb-2000 #text\_change 02-Sep-2000
C;Accession: T46339
R;Koehrer, K.; Beyer, A.; Mewes, H.W.; Gassenhuber, J.; Wiemann, S.

RESULT 2 T46339

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2	NN	22	NN	20	N N	N	L	N	N
S54098 AB0460	B82558 T45658	D86920 E72579	D83017	S42416 B82128	A82688 G98120	G95255	A31797	D71037	A40394
1-phosphatidylinos ubiquinone biosynt	<pre>IMP dehydrogenase 1-phosphatidylinos</pre>		probable transcrip hypothetical prote	probable membrane conserved hypothet	conserved hypothet	TIM-barrel protein	Spec-related prote	hypothetical prote	spec-related prote

## ALIGNMENTS

Qy 335 SSHNTYLVGDQL 346            Db 303 SSHNTYLVGDQL 314	Query Match Best Local Similarity Matches 12; Conserv	F;134-166/Domain: ca F;170-202/Domain: ca F;270-235/Domain: ca F;282-435/Domain: 1- F;489-609/Domain: pr	A; Experimental Source: Drain C; Comment: The products of h; C; Superfamily: 1-phosphatidy: phosphodiesterase domain Y hc C; Keywords: duplication; EF ) F: 15-12/Nomain: phecksfrin i	A; Accession: Su4944 A; Status: preliminary A; Molecule type: prot A; Residues: 528-541,	A; Residues: 1'04 KMLDA A; Experimental source: brain R; Meldrum, E; Katan, M.; Pa Eur. J. Blochem. 182, 673-67 A; Title: A novel inositol-ph A; Title: A novel inositol-ph A; Reference number: S04944;	A; Reference number: S A; Accession: S14113 A; Accession: preliminary A; Status: preliminary A; Molecule type: mRNA	C;Accession: \$14113; 804944 R;Meldrum, E.; Kriz, R.W.; T Eur. J. Biochem. 196, 159-16 A;Title: A second dene produ	RESULT 1 S14113 1-phosphatidylinosit 1-phosphate names: p N;Alternate names: p C;Species: Bos primi C;Date: 10-Sep-1999 C;Date: 10-Sep-1999
SDOL 316	1.0%; Score 12; DB 1; Length 764; ilarity 100.0%; Pred. No. 0.0037; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	F;134-166/Domain: calmodulin repeat homology <ef1> F;170-202/Domain: calmodulin repeat homology <ef2> F;170-202/Domain: calmodulin repeat homology <ef2> F;270-202/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X F;489-609/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain Y F;611-725/Domain: protein kinase C C2 region homology <kc2></kc2></ef2></ef2></ef1>	A;Experimental source: brain C;Comment: The products of hydrolysis, diacylglycerol and D-myo-inositol 1,4,5-tripho C;Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase delta-1; 1-p phosphodiesterase domain Y homology; calmodulin repeat homology; pleckstrin repeat ho C;Keywords: duplication; EF hand; lipid degradation; phosphoric diester hydrolase; si F:15-132/Domain: blockstrin repeat homology <plk></plk>	A;Accession: 504944 A;Status: preliminary A;Molecule type: protein A;Residues: 528-541,'X',543-553;659-669 <me2></me2>	A; Residues: 1-704 KMLLA A; Experimental source: brain R; Meldrum, E.; Katan, M.; Parker, P. Eur. J. Blochem. 182, 673-677, 1989 A; Title: A novel inositol-phospholipid-specific phospholipase C. Rapid purification A; Reference number: S04944; MUID:89325315; PMID:2753038	A;Reference number: S14113; MUID:91160548; PMID:1848183 A;Accession: S14113 A;Status: preliminary A;Molecule type: mRNA	C;Accession: \$14113; S04944  C;Accession: \$14113; S04944  Eur. J. Biochem. 196, 159-165, 1991  A:Title: A second gene product of the inositol-phospholipid-specific phospholipas	RESULT 1  14113  154113  1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) delta-2 - bov 1-phosphatidylinositol-4,5-bisphosphate phospholipase C-delta-2; triphosphoinositide N;Alternate names: phosphoinositidase C; phospholipase C-delta-2; triphosphoinositide C;Species: Bos primigenius taurus (cattle)  C;Species: Bos primigenius taurus (cattle)  C;Species: Bos primigenius taurus (cattle)  C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 02-Jun-2000
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Gaps

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A;Molécule type: mRNÁ
A;Resjaues: 1-1210 <MAA>
A;Resjaues: 1-1210 <MAA>
A;Cross-references: GB:L20816; NID:g405589; PIDN:AAA03065.1; PID:g405590
C;Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
odiesterase domain Y homology
C;Keywords: phosphoric diester hydrolase
                                                                                                                                     R:Ma, H.W.; Blitzer, R.D.; Healy, E.C.; Premont, R.T.; Lan J. Biol. Chem. 268, 19915-19918, 1993
A;Title: Receptor-evoked C1(-) current in Xenopus occytes A; Reference number: A48001; MUID:93388545; PMID:8397190
A; Status: Preliminary
                                                                                                                                                                                                                                                                                   phospholipase C (EC 3.1.4.3) beta, oocyte - African clawed C;Species: Xenopus laevis (African clawed frog) C;Date: 02-Jun-1995 #sequence_revision 02-Jun-1995 #text_chC;Accession: A48001
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F;314°463/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
F;541°661/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
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A;Note: sequence extracted from NCBI backbone (NCBIP:110494)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C:Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change
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A; Residues: 1-1181 <PAR>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R;Park, D.; Jhon, D.Y.; Kriz, R.; Knopf, J.; Rhee, S.G.
J. Biol. Chem. 267, 16048-16055, 1992
A;Attle: Cloning, sequencing, expression, and Gq-independent activation of phospholipase
A;Reference number: A43346; MUID:92355553; PMID:1644792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3 N;Alternate names: phospholipase C beta-2; triphosphoinositide C;species: Homo sapiens (man)
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odiesterase domain Y homology
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A; Residues: 1-913 < AAA>
A; Cross-references: EMBL; AL137267
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Pred. No.
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Pred. No
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January
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A; Residues: 1-1216 <KAT>
                                                                                                                                                                                              A; Title: Determination of the primary structure of PLC-154 A; Reference number: A28822; MUID:88270496; PMID:2455601
                                                                                                                                                                                                                                                                         C;Accession: A28822; A39236
R;Katan, M.; Kriz, R.W.; Tot
Cell 54, 171-177, 1988
                                                                                                                                                                                                                                                                                                                                                                                1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) I - bovine N;Alternate names: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase beta; C;Species: Bos primigenius taurus (cattle) C;Date: 28-Aug__1989 #sequence_revision 28-Aug-1989 #text_change 22-Jun-1999
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A;Molecule type: protein
A;Residues: 284-292,'X',294-296,'R';568-577;751-753,'L',755-759;765-776,'T',778-780;8
A;Experimental source: erythrocyte
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A; Residues: 210-216, M', 218-231; 244-248; 284-291; 345-353, 'S',
A; Residues: 210-216, M', 218-231; 244-248; 284-291; 345-353, 'S',
A; Rexperimental source: erythrocyte
R; Waldo, G.L.; Morris, A.J.; Klapper, D.G.; Harden, T.K.
Mol. Pharmacol. 40, 480-489, 1991
                                                       A; Cross-references:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         odiesterase domain Y homology
                                                                                                                                                                      A; Accession: A28822
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mol. Pharmacol. 40, 480-489, 1991
A;Title: Receptor- and G-protein-regulated 150-kDa avian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        phospholipase C, inositol-lipid specific (EC 3.1.4.-) isoform beta - turkey C;Species: Meleagris gallopavo (common turkey) C;Date: 05-Dec-1996 #sequence_revision 07-Feb-1997 #text_change 22-Jun-1999 C;Accession: S68251; S72374; A61270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Status: preliminary
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A;Experimental source: erythrocyte
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                   Kim,
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6, 559-568, 1996
               s: GB:J03137;
U.H.; Wahl, 1
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                                                                                                                                                                                                                                                                                                                 R.W.; Totty, N.; Philp,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Boyer, J.L.; Nicholas,
NID:g163521; PIDN:AAA30702.1; M.I.; Brown, A.B.; Carpenter, (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 12; Pred. No
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                                                                                                                                                                                                                                                                                                         E.; Aldape, R.A.; Knopf, J.L.
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       G.;
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                                           PID:g163522
   Huang,
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A; Title: Feedback regulation o
A; Reference number: A39236; MU
A; Accession: A39236; MU
A; Accession: A39236
A; Molecule type: protein
A; Residues: 879-889 (RYU)
C; Superfamily: 1-phosphatidylii
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R;Suh, P.G.; Ryu, S.H.; Moon, K.H.; Suh, H.W.; Rhee, S.G. Cell 54, 161-169, 1998
A;Title: Cloning and sequence of multiple forms of phospholipase A;Reference number: A90899; MUID:88270495; PMID:3390863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N;Alternate names: triphosphoinositide phosphodiesterase C;Species: Rattus norvegicus (Norway rat) C;Decies: 0-Jun-1989 #sequence_revision 30-Jun-1989 #text_change C;Accession: A28821
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                                                                                                                                                                                                                               R;Shibatohge, M.; Kariya, K.; Liao, Y.; Hu, C.D.; Watari, Y.; Goshima, M.; Shima, F.; Kd
J. Biol. Chem. 273, 6218-6222, 1998
A;Title: Identification of PLC210, a Caenorhabditis elegans phospholipase C, as a putati
A;Reference number: Z22164; MUID:98165800; PMID:9497345
A;Accession: T42440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F;318-467/Domain: 1-phosphatidylinositol-4,5-bisphosphate
F;539-659/Domain: 1-phosphatidylinositol-4,5-bisphosphate
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A; Residues: 1-1216 <SUH>
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                                                                      A;Molecule type: mRNA
A;Residues: 1-1898 <SHI>
A;Residues: 1-1898 <SHI>
A;Cross-references: EMBL.AF044576; NID:g2957269; PIDN:AAC38963.1; PID:g2957270
C;Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X homol
F;912-1058/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X h
                                                                                                                                                                                                                                                                                                                                                                                  phospholipase C homolog - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Datc: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 02-Sep-2000
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                                                                                                                                                                                                      A;Status: preliminary; translated from GB/EMBL/DDBJ
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100.08; Fi
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hypothetical protein F31B12.1 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 02-Sep-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Map position: X
A;Introns: 44/1; 137/3; 207/3; 305/1; 347/1; 425/3; 486/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 144/1; 137/3; 207/3; 305/1; 347/1; 425/3; 486/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 144/1; 137/3; 207/3; 305/1; 347/1; 425/3; 486/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 144/1; 137/3; 207/3; 305/1; 347/1; 425/3; 486/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 444/1; 137/3; 207/3; 305/1; 347/1; 425/3; 486/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 444/1; 137/3; 207/3; 305/1; 347/1; 425/3; 486/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 444/1; 137/3; 207/3; 305/1; 347/1; 425/3; 486/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 444/1; 137/3; 207/3; 305/1; 347/1; 425/3; 486/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 444/1; 137/3; 207/3; 305/1; 347/1; 425/3; 486/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 444/1; 137/3; 207/3; 305/1; 347/1; 425/3; 486/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 444/1; 137/3; 207/3; 305/1; 347/1; 425/3; 486/3; 536/3; 593/1; 619/2; 708/1
A;Introns: 446/1; 446/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/3; 546/
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A; Accession: T21581
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Residues: 1-1922 <WIL>
A;Cross-references: EMBL:Z50740; PIDN:CAA90606.1; GSPDB:GN00028; CESP:F31B12.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type: DNA
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1026 PVILSIENHCS 1036
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[00.0%; Pred. No.

 Mismatches

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C;Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 02-Jun-2000 C;Accession: B28821; 155942 R;Suh, p.G.; Ryu, S.H.; Moon, K.H.; Suh, H.W.; Rhee, S.G. R;Suh, 161-169, 1988 A;Tille: Cloning and sequence of multiple forms of phospholipase C. A;Reference number: A90899; MUID:88270495; PMID:3390863 A;Note: spontaneously hypertensive mutant c;Comment: The products of hydrolysis, diacylglycerol and D-myo-inositol 1,4,5-tripho C;Comment: The products of hydrolysis, diacylglycerol and D-myo-inositol 1,4,5-tripho C;Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodlesterase delta-1; 1-p phosphodiesterase domain r homology; calmodulin repeat homology; pleckstrin repeat ho C;Keyvords: duplication; EF hand; lipid degradation; phosphoric diester hydrolase; si F;19-128/Domain: pleckstrin repeat homology <PLKS-F;140-172/Domain: calmodulin repeat homology <EF1>F;176-208/Domain: calmodulin repeat homology <EF2> 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase (EC 3.1.4.11) delta-1 - N;Alternate names: phosphoinositidase C; phospholipase C-delta-1; triphosphoinosit C;Species: Rattus norvegicus (Norway rat) J. Hypertens. 9, 997-1004, 1991
A; Title: Phospholipase C-delta gene of the spontaneously hypertensive A; Reference number: I55942; MUID:92098966; PMID:1684614 A; Reference number: A90899; MUID:88270495; A; Accession: B28821 A;Molecule type: mRNA A;Residues: 1-411,'M',413-422,'S',424-462,'D',464-626,'A',628,'K',630-667,'A',669-756 A;Cross-references: GB:S74591; NID:9241276 A; Molecule type: mRNA A; Residues: 1-756 <SUH> A;Status: preliminary; translated from GB/EMBL/DDBJ A; Accession: I55942 R; Yagisawa, H.; Tanase, H.; Nojima, H. A; Experimental source: brain A;Cross-references: GB:M20637; GB:J03136; A; Note: this translation is not annotated in GenBank entry S74591, release 113.0 NID:g206219; PIDN:AAA41886.1; .4.11) delta-1 - rat triphosphoinositide rat harbors PID: g206220

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A; Exper
                                                                                                                                                                                                                                                                                                                                                                                             hypothetical protein K10F12.3 - Caenorhabditis elegans (; Species: Caenorhabditis elegans C; Species: Caenorhabditis elegans C; Date: 29-Oct-1999 #sequence_revision 29-Oct-1999 #text_change C; Accession: T32374 R; Wohldmann, P.; Beck, C. submitted to the EMBL Data Library, September 1997 A; Description: The sequence of C. elegans cosmid K10F12.
                                                                                                                    A;Introns: 46/1; 96/1; 124/3; 165/1; 223/3; 282/3; 340/3; 381/1; 485/3; 516/2; 549/1; 62
C;Superfamily: yeast 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase; 1-phosphosphodiesterase domain Y homology
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A;Molecule type: DNA
A;Residues: 1-895 <WOH>
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T32374
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A;Kote: sequence extracted from NCBI backbone (NCBIP:113302)
C;Superfamily: 1-phosphatidylinosito1-4,5-bisphosphate phosphodiesterase delta-1; 1-phosphotphodiesterase domain r homology; caimodulin repeat homology; pleckstrin repeat homol C;Keywords: EF hand; phosphoprotein; phosphoric diester hydrolase
F;324-465/Domain: 1-phosphatidylinosito1-4,5-bisphosphate phosphodiesterase domain x hom F;338-656/Domain: 1-phosphatidylinosito1-4,5-bisphosphate phosphodiesterase domain x hom F;558-769/Domain: protein kinase C C2 region homology <KC2>
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J. Biol. Chem. 267, 18387-18392, 1992
A;Title: Molecular cloning and expression of a phosphoinositide-specific phospholipase
A;Reference number: A44165, MUID:92406741; PMID:1326523
A;Accession: A44165
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A; Residues: 1-801 < DRA>
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Best Local
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                                                                                       487/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X ho
                                                                                                                                                                                                  position:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        640 NGGCGYVLKP 649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      723 NGGCGYVLKP 732
                                                                                                                                                                                                                                                                 rimental source: strain Bristol N2; clone K10F12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              596 NGGCGYVLKP 605
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                                    Local Similarity
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              10;
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  100.08; +-
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                             0.8%; Score 10; DB 2; 100.0%; Pred. No. 0.47;
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A; Molecule type: DNA
A; Residues: 1-896 <WIL>
A; Cross-references: EMB
                                                                                                                                                                                         A:Introns: 21/3; 54/3; 115/3; 163/2; 189/3; 223/2; 273/1; 325/1; 642/2; 674/3; 783/1; C:Superfamily: squid 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase; 1-phoosphodiesterase domain Y homology
                                                                                                                                                                 F;306-467/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         submitted to the EMBL Data Library, October 1998
                                                                                                                                                                                                                                                                     A; Map position: 5
                                                                                                                                                                                                                                                                                             A; Gene: CESP: Y75B12B.6
                                                                                                                                                                                                                                                                                                                  C; Genetics:
                                                                                                                                                                                                                                                                                                                                     A; Experimental source:
                                                                                                                                                                                                                                                                                                                                                                                                                    A; Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Accession: T27376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Reference number:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C; Accession: T27376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jun-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hypothetical protein Y75B12B.6 - Caenorhabditis elegans C; Species: Caenorhabditis elegans
                                                                                                                                  Query Match
                                                                                            Matches
401 YPVILSIENH 410
                                             409 YPVILSIENH 418
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                                                                                                             Local
                                                                                                             Similarity
                                                                                        Conservative
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De: clone Y75B12B
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                                                                                                        100.0%;
                                                                                                        0.8%; Score 10;
100.0%; Pred. No.
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                                                                                     Mismatches
                                                                                                      DB 2;
0.47;
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                                                                                                                           Length 896;
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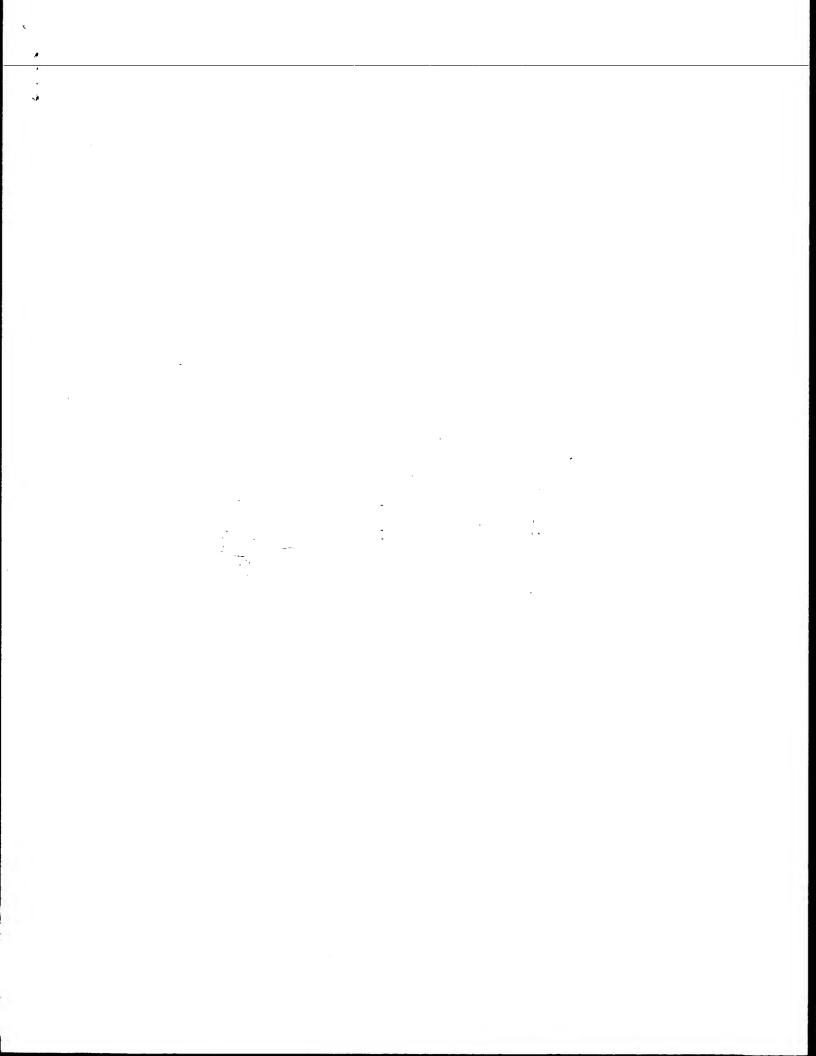
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A;Gene: GDB:PLCE; PLC-L
A;Gene: GDB:PLCE; PLC-L
A;Cross-references: GDB:699207; OMIM:600597
A;Map position: 2q33-2q33
C;Superfamily: human phosphoinositide-specific phospholipase C; 1-phosphatidylinosito
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C;Accession: I54390
R;Kohno, T.; Otsuka, T.; Takano, H.; Yamamoto, T.; Hamaguchi, M.; Terada, M.; Yokota, Hum. Wol. Genet. 4, 667-674, 1995
A;Title: Identification of a novel phospholipase C family gene at chromosome 2q33 tha A;Reference number: I54390; MUID:95359973; PMID:7633416
A;Accession: I54390
                                                                                                                                             F; 302^{-444}/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase F; 486^{-606}/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: GB:D42108; NID:g780121; PIDN:BAA07688.1; PID:g780122
                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: mRNA
A; Residues: 1-997 < RE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C:Species: Homo sapiens (man)
C:Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      phosphoinositide-specific phospholipase C (EC 3.1.4.-) epsilon - human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                          ; Keywords: phosphoric diester hydrolase
                                                                                                         Query Match
322 QDMTQPLSHY 331
                                                                                   Local
                                                       10;
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                                                                                Similarity
                                                       Conservative
                                                                          100.0%;
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Pred. No.
                                                 Mismatches
                                                                          DB 1;
. 0.51;
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                                               Indels
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                                                                                                                                                domain
domain
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ب.

300 QDMTQPLSHY 309

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S62358

N;Alternate names: phospholipase C delta 1 homolog
C;Species: Rattus norvegicus (Norway rat)
C;Species: Rattus norvegicus (Norway rat)
C;Species: Rospidipase C delta 1 homolog
C;Species: Rattus norvegicus (Norway rat)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 16-Jun-2000
C;Accession: S62358; S69328
R;Kanematsu, T; Misumi, Y; Watanabe, Y; Ozaki, S; Koga, T; Iwanaga, S; Ikehara, Y.
Biochem. J. 313, 319-325, 1996
A;Title: A new inositol 1,4,5-trisphosphate binding protein similar to phospholipase c-d
A;Reference number: S62358
A;Molecule type: mRNA
A;Residues: 1-1096 <KANNI>
A;Cross-references: EMBL:D45920; NID:g1183843; PIDN:BAA08351.1; PID:g1183844
A;Accession: S69328
A;Molecule type: protein
A;Residues: 172-191;228-242;1024-1034 <KAN2>
C;Superfamily: human phosphoinositide-specific phospholipase C; 1-phosphatidylinositol-4
C;Superfamily: human phosphoinositide-specific phospholipase C; 1-phosphatidylinositol-4
Gomain Y homology
F;401-543/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain Y hom
F;585-705/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain Y hom
Search completed: March 28, 2003, 14:06:00 Job time: 60 secs
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P1B4_RAT
P1G1_ROVIN
P1G1_HUMAN
P1G2_HUMAN
P1G2_HUMAN
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Q8zam1 yersinia pe
Q9kvq4 vibrio chol
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Result No.

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1124	1064 282	1004 222	944 · 162 ·	102	Query Mat Best Loca Matches	EMBL; Hypotl SEQUE	modifi entiti	This SWISS-PROT entry is copyright. It between the Swiss Institute of Bioinf. the European Bioinformatics Institute the by non-profit institutions as 1.	from l	Seki N., Ohira M., Naga Nakajima D., Nomura N., "Characterization of CE	TISSUE	Manuna J	Homo s Eukary	16-OCT-2001 (Rel. 4) 16-OCT-2001 (Rel. 4) 16-OCT-2001 (Rel. 4) Hypothetical protei	Y450_F 075038	ULT 1		41 42 43 44 45	37 38 40	2 2 2 4 7 7 6 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7
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PLLP	3PGGSGSMS	QRERI       QRERI	AQEGI      AQEGI	PARPS       ARPS	Score 324; DI Pred. No. 0; ; Mismatches	2A6D73	t rem ment ib.ch	t. It is in the interval of th	-	Ishikawa O.; nes in siz		11.1	iat	e up ion	4		ALIGNMENTS	PSA2_YEAST YCB0_YEAST APA1_ANAPL APA1_CHICK APA1_COTJA	EAST GHI OUSE RATH	COLI
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                                                                                                  pfam; pF00168; C2; 1.
pfam; pF00387; pI-pLC-Y; 1.
pfam; pF00388; pI-pLC-Y; 1.
pfam; pF00389; pI-pLC-Y; 1.
pr. pr0050; pD001202; pI_pLC_Y; 1.
pr. pr0050; pD001202; pI_pLC_Y; 1.
pr. pr0050; pD001202; pI_pLC_Y; 1.
pr. pr0050; pD001409; pLCYC; 1.
pr. pr00504049; pLCYC; 1.
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Q1-UUL-1993 (Rel. 26, Created)
Q1-UUL-1993 (Rel. 26, Last sequence update)
Q1-UUL-2002 (Rel. 41, Last annotation update)
15-UUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase beta 2
(EC 3.1.4.11) (PLC-beta-2) (Phospholipase C-beta-2).
  PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50007; PIPLC_X_DOMAIN; 1.
PROSITE; PS50008; PIPLC_Y_DOMAIN; 1.
Pydrolase; Lipid degradation; Transdu
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
MEDLINE=92355553; PubMed=1644792;
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Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1184
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Motazoa: Chordata;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OF PLC AND ARE ESSENTIAL FOR CATA
1- SIMILARITY: CONTAINS 1 C2 DOMAIN.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COPACTOR: Calcium.
MISCELLANEOUS: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-BETA-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-bisphosphate + H(2)0 - D-myo-inositol 1,4,5-trisphosphate +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS
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IPR001192; PI_PLC.
IPR000909; PI_PLC_xdom.
IPR0001711; PI_PLC_Y.
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Transducer;
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     Calcium.
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Best Local S
Matches 12
                               Pfam;
Pfam;
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Ol-JUL-1989 (Rel. 11, Created)
Ol-JUL-1989 (Rel. 11, Last sequence update)
10-JUL-1989 (Rel. 11, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase beta 1
(EC 3.1.4.11) (PLC-beta-1) (Phospholipase C-beta-1) (PLC-I) (PLC-154).
                                                                                                                                                                                             use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
   ProDom; PD001202;
                                                                                                                                PIR; A28822; A28822.
HSSP; P10688; 1DJX.
                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a between the Swiss Institute of Bioinformatics and the EMBI
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SEQUENCE
                PRINTS;
                                                                                      InterPro;
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                                                                                                                                                            EMBL; J03137; AAA30702.1;
                                                                                                                                                                                       or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                              the European Bioinformatics Institute.
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                                                                                                                                                                                                                                                                                                                                                                                                    -!- CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-bisphosphate + H(2)O = D-myo-inositol 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                             -1- FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) IS
MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             diversity of phosphoinositide-specific phospholipase Cell 54:171-177(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DOMAIN
DOMAIN
                                                                                                                 InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Katan M., Kriz R.W., Totty N., Philp R., Meldrum E., Aldape R.A.,
Knopf J.L., Parker P.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Determination of the primary structure of PLC-154 demonstrates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-88270496;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9913;
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                                                                                                                                                                                                                                                                                                                           MISCELLANEOUS: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-BETA 1 I MEDIATED BY TWO G-PROTEIN ALPHA SUBUNITS, ALPHA-Q AND ALPHA-11.
SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS
                                                                                                                                                                                                                                                                                                      OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY. SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                             COFACTOR: Calcium.
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                         PF00168; C2; 1.
PF00387; PI-PLC-Y; 1.
PF00388; PI-PLC-X; 1.
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12; Conserv
                PR00390;
                                                                    IPR000008; C2.
IPR001192; PI_PLC.
IPR000909; PI_PLC_Xdom.
IPR001711; PI_PLC_Y.
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PHPHLIPASEC.; PI_PLC_Y; 1
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DOMAIN Y (BY SIMILARITY).
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BY SIMILARITY.
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PROSITE; PS50007; PIPLC_X_DOMAIN; 1
PROSITE; PS50008; PIPLC_Y_DOMAIN; 1
Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R., Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L., Balley J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M., Bearsley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J., Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P., Chee C.M., Clark G., Clark L.N., Clark S.Y., Clee C.M., Cleg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R., Coulson A., Coville G.J., Deadman R., Dhami P.D., Dunn M., Ellington A.G., Frankland J.A., Fraser A., French L., Garner P., Ellington A.G., Frankland J.A., Fraser A., French L., Garner P., Hammond S., Harley J.L., Heath P.D., HO S., Holden J.L., Howden P.J., Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D., Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
                                                                                                                                                                                                                                                              Peruzzi D., Calabrese G., Faenza I., Manzoli L., Matteucci A., Gianfrancesco F., Billi A.M., Stuppia L., Palka G., Cocco L., "Identification and chromosomal localisation by fluorescence in hybridisation of human gene of phosphoinositide-specific phospho
                                                                                                                                                                                                                                                                                                                                                                       Caricasole A., Sala C., Roncarati K., FULING (Cloning and characterization of the human phospholipase C-beta 1 (PLCbeta1).; Biochim. Biophys. Acta 1517:63-72(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-OCT-2001 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase beta 1
(EC 3.1.4.11) (PLC-beta-1) (Phospholipase C-beta-1) (PLC-I) (PLC-154).
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Q9NQ66; Q9NQ65;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens (Human)
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                                                                                                                                                                                                                                    Biochim.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                        MEDLINE=20225428; PubMed=10760467;
                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. (ISOFORM A).
                                                                                                                                                                                           MEDLINE=21638749;
                                                                                                                                                                                                       SEQUENCE FROM N.A.
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; SM00148; PLCXC;
; SM00149; PLCYC;
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316 467
540 656 DC
663 761 CC
331 331
3378 378 BB
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                                                                                                                                                                                         PubMed=11780052;
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Primates;
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DOMAIN Y.
C2 DOMAIN.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITON (BY E
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human phosphoinositide-specific
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0.0029;
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Lehvaslaiho M.H., Leversha M.A., Lloyd C., Lloyd D.M., Lovell J.D., Marsh V.L., Martin S.L., McConnachle L.J., McLay K., McMurray A.A., Mille S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T., Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I., Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsay H., Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsay H., Rice C.M., Ross M.T., Scott C.E., Sehra H.K., Shownkeen R., Sins S., Skuce C.D., Smith M.L., Soderlund C., Steward C.A., Sulston J.E., Swann R.M., Sycamore N., Taylor R., Tee L., Thomas D.W., Thorpe A., Tracey A., Tromans A.C., Vaudin M., Wall M., Walliams L., Williams S.L., Whittaker P., Willey D.L., Williams L., Williams S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   code
                                                                                                                                      This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nomura N., Ohara O.; "Prediction of the coding sequences of unidentified human The complete sequences of 100 new cDNA clones from brain we code for large proteins in vitro."; DNA Res. 5:31-39(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "The DNA sequence and comparative analysis of human chromosome Nature 414:865-871(2001).
the European Bioinformatics Institute. There are no rest
use by non-profit institutions as long as its content
modified and this statement is not removed. Usage by an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=98290545;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Koehrer
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                                                                                                       between
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FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
DIACYLCLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) IS
DIACYLCLYCROL (DAG) AND INOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
                                                                                                                                                                                             ALTERNATIVE PRODUCTS: 2 ISOFORMS; A (SHOWN HERE) AND B; ARE ALTERNATIVE PRODUCTS: 2 PRODUCED BY ALTERNATIVE SPLICING.

PRODUCED BY ALTERNATIVE SPLICING.

MISCELLANEOUS: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-BETA 1 II

MEDIATED BY TWO G-PROTEIN ALPHA SUBUNITS, ALPHA-Q AND ALPHA-11.

SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS
OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.

SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-bisphosphate + H(2)0 - D-myo-inositol 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                diacylglycerol.
COFACTOR: Calcium
                                                                                                   SWISS-PROT entry is copyright. It is produced through a collaboration \cdot en the Swiss Institute of Bioinformatics and the EMBL outstation \cdot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ENZYMES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck
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InterPro; InterPro; InterPro; InterPro; HSSP; | Genew; EMBL; EMBL; EMBL; EMBL; EMBL; EMBL; entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch). PRINTS; EMBL; ; AJ278313; CAB98142.1; ; AJ278314; CAB98143.1; ; AY004175; AAF86613.1; ; AL031683; CAC16181.1; ; AL031683; CAC34366.1; ; AL050315; CAB56498.1; ; AL049632; CAB46663.1; ; AL049632; CAB46663.1; ; AL049632; CAB46666.1; ; AL049632; CAB70666.1; ; AL0137267; CAB70666.1; ; AL01153; BAA25507.1; PF00168; C2; 2. PF00387; PI-PLC-Y; 3. PF00388; PI-PLC-X; 2. P10688; HGNC:15917 PR00390; PHPHLIPASEC ipR000008; C2.
ipR001192; PI\_PLC.
ipR000909; PI\_PLC\_X
ipR001711; PI\_PLC\_Y ldJX. PLCB1. PI\_PLC\_Y. \_xdom.

DDR REPORT FOR THE PROPERTY OF THE PROPERTY OF

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PIB1
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SMART; SM00148; PLCXC; 1.

SMART; SM00149; PLCYC; 1.

SMART; SM00149; PLCYC; 1.

PROSITE; PS50004; C2_DOMAIN_2; 1.

PROSITE; PS50007; PIPLC_X_DOMAIN; 1.

PROSITE; PS50008; PIPLC_Y_DOMAIN; 1.

Hydrolase; Lipid degradation; Transducy
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"Cloning, sequencing, purification, and Gq-dependent activation phospholipase C-beta 3.";
J. Biol. Chem. 268:6554-6661(1993).
1- FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHO)
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                                                                                                                                                                     ACTIVITY, TISSUE SPECIFICITY, AND SUBCELLULAR LOCATION MEDILINE=93203266; PubMed=8454637; Jhon D.-Y., Lee K.-H., Park D., Lee C.-W., Lee K.-H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-JUL-1989 (Rel. 11, Created)
01-JUL-1989 (Rel. 11, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinosito1-4,5-bisphosphate phosphodiesterase
(EC 3.1.4.11) (PLC-beta-1) (Phospholipase C-beta-1) (PLC-I
                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. MEDLINE-88270495;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                              Cloning
                                                                                                                                                                                                                                                                                                                                                                                                                                       WCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Rattus norvegicus (Rat).
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                                                                                                                                                                                                                                                                                                      P.-G., Ryu S.H., Moon K.H., Suh H.W oning and sequence of multiple forms
                                                                                                                                                           S.G.;
                                                                                                                                                                                                                                                                                      54:161-169(1988)
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                                                                                                                                                                                                                                                                                                              PubMed=3390863;

Con K.H., Suh H.W.
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PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
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BY SIMILARITY.

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PHOSPHORYLATION (BY PKC) (BY SIMILARITY).

LQVELEQEYQDKFKRLPLEILEFVQEAMKGKISEDSHHGSA

PLSLSSDFKVHKTPSSEELGGDIPGKEFFTPL -> GEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata; Vertebrata;
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phospholipase
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                                                                             PID1_RAT STANDARD: PRT: 756 AA.
P10688: Q9QVD3; Q9QVD4; Q9QVD5;
01-JUL-1989 (Rel. 11, Created)
01-JUL-1989 (Rel. 11, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase delta_(EC_3.1.4.11) (PLC-delta-1) (Phospholipase C-delta-1) (PLC-III).
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PROSITE: PS50007; PIPLC_X_DOMAIN; 1.
PROSITE: PS50008; PIPLC_Y_DOMAIN; 1.
Hydrolase: Lipid degradation; Transdan Communication of the communicati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DOMAIN
ACT_SITE
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SEQUENCE
    Eukaryota;
Mammalia;
                                                Rattus norvegicus (Rat).
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SMART; SM00239; C2; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
SMART; SM00149; PLCYC; 1.
PROSITE: PS50004; C2_DOMAIN_2;
BB057778; PS50004; C2_DOMAIN_2;
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Pfam; PF00387; PI-PLC-Y; 1.
Pfam; PF00388; PI-PLC-X; 1.
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InterPro; IPR001192; PI_PLC.
InterPro; IPR000909; PI_PLC_Xdom.
InterPro; IPR001711; PI_PLC_Y.
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SUBCELLULAR LOCATION: Cytosolic and particulate fractions.

TISSUE SPECIFICITY: Highest expression in brain. Also expressed parotid gland, liver, uterus, lung, heart, adrenal gland and
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CATALYTIC ACTIVITY: 1-phosphatidy1-1D-myo-inositol 4,5-bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate diacylglycerol.
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SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS
OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
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Sciurognathi;
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Muridae;
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"A ternary metal binding site in the C2 domain of phosphoinositide-
specific phospholipase C-deltal.";
Biochemistry 36:2753-2762(1997).
-1- FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) IS
MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Crystal structure of a mammalian phosphoinositide-specific phospholipase C delta.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Grobler J.A., Essen L.-O., Williams R.L., Hurley J.H.; "C2 domain conformational changes in phospholipase C-delta Nat. Struct. Biol. 3:788-795(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       X-RAY CRYSTALLOGRAPHY (2.4 ANGSTROMS) OF MEDLINE-96378790; PubMed-8784353;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ferguson K.M., Lemmon M.A., Schlessinger J., Sigler P.B.;
"Structure of the high affinity complex of inositol trisphosphate
with a phospholipase C pleckstrin homology domain.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Kanematsu T., Takeya H., Watanabe Y., C
Iwanaga S., Hirata M.;
"Putative inositol 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE-Brain;
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MEDLINE=96186808; PubMed=8602259;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Suh P.-G., Ryu S.H., Moon K.H.,
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[1]
                                                                                                                                                 use by non-profit institutions as long modified and this statement is not removed entities requires a license agreement (See
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                                                                                                                                    cities requires a license agreement (S send an email to license@isb-sib.ch).
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SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.

SIMILARITY: CONTAINS 1 C2 DOMAIN.

SIMILARITY: CONTAINS 1 PH DOMAIN.

SIMILARITY: CONTAINS 2 EF-HAND CALCIUM-BINDING DOMAINS.
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                                                                                                                                                                                               European Bioinformatics Institute.
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83:1037-1046(1995).
1DJI;
1DJW;
1DJX;
1DJY;
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07-JUL-97.
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DOMAIN
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InterPro; IPR000909; PI_PLC_xd
InterPro; IPR001711; PI_PLC_Y.
Pfam; PF00036; efhand; 2.
        MEDLINE=92406741; PubMed=1326523;
Drayer A.L., van Haastert P.J.;
"Molecular cloning and expression of a phosphoinositide-specific phospholipase C of Dictyostelium discoideum.";
phospholipase C of Dictyostelium discoideum.";
J. Biol. Chem. 267:18387-18392(1992).
-i- FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
-i- FUNCTION: THE JOHN JONESTOL 1,4,5-TRISPHOSPHATE (1P3)
                                                                                                                                                  01-OCT-1993 (Rel. 27, Created)
01-OCT-1993 (Rel. 27, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
(EC 3.1.4.11) (PLC) (Phosphoinositide-specific phospholip
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                                                                                                                         Dictyostelium discoideum (Slime mold).
Eukaryota; Mycetozoa; Dictyosteliida;
                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hydrolase;
                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             [nterPro;
                                                                                                              NCBI_TaxID=44689;
                                                                                                                                             PIPA OR PLC.
                                                                                                                                                                                                                                                                     596
                                                                                                                                                                                                                                                                                                                                                                                                                                                 D-structure
                                                                                                                                                                                                                                                                                         723 NGGCGYVLKP 732
 MEDIATED BY ACTIVATED
                                                                                                                                                                                                                                                                     NGGCGYVLKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S; PR00360; C2DOMAIN.
S; PR00390; PHPHLIPAS
S; PR00322; PI PLC_Y
SM00239; C2; 1.
SM00239; C2; 1.
SM00238; PLCXC; 1.
SM00149; PLCXC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PF00036; efhand;
PF00168; C2; 1.
PF00169; PH; 1.
                                                                                                                                                                                                                                                                                                              10;
                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PS50007;
PS50008;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PS00018;
PS50003;
                                                                                          FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PS50004;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; 12-FEB-97.
; 12-FEB-97.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IPR001849;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07-JUL-97.
07-JUL-97.
08-NOV-96.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Lipid
                                                                                                                                                                                                                                                                                                                                                      756 AA;
                                                                                                                                                                                                                                                                                                                                                                          21
153
189
296
492
630
                                                                                                                                                                                                                                                                                                             larity 100.0%; Conservative
                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; EF_HAND; 2.
; PH_DOMAIN; 1.
; C2_DOMAIN_2; 1.
; PIPLC_X_DOMAIN; 1.
; PIPLC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PHPHLIPASEC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           degradation; Transducer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C2DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                          130
164
200
440
609
720
311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EF-hand.
                                                                                                                                                                                                                                                                                                                                                      85962 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PLC_Y;
                                                                                                                                                                                                                                                                                                                        0.8%; Score 10;
100.0%; Pred. No.
  PHOSPHATIDYLINOSITOL-SPECIFIC
                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          _xdom
                                                                                                                                                                                                                                                                                                                                                                                                       PH.
EF-HAND 1
EF-HAND 2
DOMAIN X.
                                                                                                                                                                                                                                                                                                                                                                                   DOMAIN Y.
C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                      E33F2313AC81E9F9 CRC64;
                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                    801
                                                                                                                          Dictyostelium
                                                                                                                                                                                                                                                                                                                                                                                                                            (POTENTIAL)
                                                                                                                                                                                                                                                                                                                       DB 1;
0.2;
                                                                                                                                                                                                                                                                                                                                                                                                                   (POTENTIAL)
                                                                                                                                                                                                                    A
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Calcium-binding; Repeat;
                                                                                                                                                                                                                                                                                                                                Length 756;
                                                                                                                                                       phospholipase C).
  PHOSPHOLIPASE
                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                              Gaps
            SI
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PIPA_
ID
AC
DT
DT
DT
DT
                                                                                                                         RESULT
                                                                                                                                                                                                                                                            Best
                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PHAMTS; PROUSSO; CZDOWALN,
PRINTS; PRO0360; CZDOWALN,
PRINTS; PRO0390; PHPHLIPASEC.
PRODOM; PD001202; PI_PLC_Y; 1.
SMART; SM00239; CZ; 1.
SMART; SM00148; PLCXc; 1.
SMART; SM00149; PLCXc; 1.
                                                                                                                                                                                                                                                                                                                                           Phosphorylation.

DOMAIN 322

DOMAIN 542

DOMAIN 661

CA_BIND 490

ACT_SITE 337

ACT_SITE 382

MOD_RES 524

MOD_RES 531
            01-JAN-1990 (Rel. 13, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
                                                                                                         DROME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL;
                                                                                        PIPA_DROME
                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE; PS00018; EF_HAND; 1;
PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50007; PIPIC_X_DOMAIN; 1.
PROSITE; PS50008; PIPIC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        use
                                                                                                                                                                         640
                                                                                                                                                                                                       723 NGGCGYVLKP 732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro; IPR000909;
InterPro; IPR001711;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DoictyDb; DD05034; pipA.
InterPro; IPR000008; C2.
InterPro; IPR002048; EF hand.
InterPro; IPR001192; PI_PLC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DictyDb; DD05034;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              +
-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
                                                                                                                         œ
                                                                                                                                                                                                                                                            Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              s SWISS-PROT entry is copyright. It is produced through a collaboratic ween the Swiss Institute of Bioinformatics and the EMBL outstation European Bioinformatics Institute. There are no restrictions on it by non-profit institutions as long as its content is in no war
                                                                                                                                                                         NGGCGYVLKP 649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAUTION: IT IS UNCERTAIN WHETHER MET-1 IS THE INITIATOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
SIMILARITY: CONTAINS 1 C2 DOMAIN.
SIMILARITY: CONTAINS 1 EF-HAND CALCIUM-BINDING DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CATALYTIC ACTIVITY: 1-phosphatidy1-1D-myo-inositol 4,5-bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EXPRESSION IN THE CULMINATING FRUITING BODY AND DURING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEVELOPMENTAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STARVATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         diacylglycerol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PF00387; PI-PLC-Y; 1. PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PF00168; C2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P10688;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    M95783; AAA33235.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ENZYMES.
                                                                                                                                                                                                                                          10;
                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                           801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Lipid degradation;
                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A44165.
                                                                                                                                                                                                                                                                                                           A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IDJX.
                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PI_PLC_Y; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STAGE: EXPRESSED AT ALL STAGES; INCREASE
                                                                                                                                                                                                                                                                                                                                             464
652
765
501
337
382
524
                                                                                                                                                                                                                                                      0.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; PI_PLC.
; PI_PLC_Xdom.
; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                           91280 MW;
                                                                                                                                                                                                                                                                                                                                                                       DOMAIN X.
DOMAIN Y.
C2 DOMAIN.
EF-HAND (POTENTIAL).
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                        Score 10;
                                                                                                                                                                                                                                                                                                                           (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                         PHOSPHORYLATION
                                                                                                                                                                                                                                                                                                                                                         PHOSPHORYLATION
                                                                                    PRT;
                                                                                                                                                                                                                                                          Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Transducer; Calcium-binding;
                                                                                                                                                                                                                                                                                                        DB4FA8C829812DD9 CRC64;
                                                                                                                                                                                                                                        Mismatches
                                                                                    1095
                                                                                                                                                                                                                                                                        DB 1;
                                                                                    Å
                                                                                                                                                                                                                                                      .21;
                                                                                                                                                                                                                                                                                                                                        (POTENTIAL)
                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                      Length 801;
                                                                                                                                                                                                                                                                                                                                        PKA AND
                                                                                                                                                                                                                                                                                                                                         PKG)
                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   collaboration
                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                   0;
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PIB4\_HUMAN ID PIB4\_HUMAN RESULT 9

STANDARD;

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                                                     Matches
                                                                 Query Match
Best Local
                                                                                                         DOMAIN
ACT_SITE
ACT_SITE
SEQUENCE
                                                                                                                                                                                                                     PROSITE;
                                                                                                                                                                                                                                                                                        PRINTS; PR00390; PHPHLIPASEC ProDom; PD001202; PI_PLC_Y;
                                                                                                                                                                                                                                                                                                                   Pfam; PF00168; C2; 1.
Pfam; PF00387; PI-PLC-Y; 1.
Pfam; PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Mandibulata; Pancrustacea; Hexapoda;
Insecta; Pterygota; Neoptera; Endopterygota; Diptera; Brachycera;
Muscomorpha; Ephydroidea; Drosophilidae; Drosophila.
MCBI_TaxID=7227;
                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                   SMART;
                                                                                                                                                                                                                                                                               SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                   HSSP; P10688; 1QAS
                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; J03138; AAA28724.1; -. PIR; A31225; A31225.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                modified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bloomquist B.T., Shortridge R.D., Schneuwly S., Perdew M.H., Montell C., Steller H., Rubin G., Pak W.L.;
"Isolation of a putative phospholipase C gene of Drosophila, norph, and its role in phototransduction.";
Cell 54:723-733(1988).
                                                                                                                                                                               DOMAIN
                                                                                                                                                                                            Hydrolase;
                                                                                                                                                                                                           PROSITE;
                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR000008; C2.
InterPro; IPR001192; PI_PLC.
InterPro; IPR000909; PI_PLC_xdom.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   or send an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    entities
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Ex
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             diacylglycerol.

-i- SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS
-PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
-i- SIMILARITY: CONTAINS 1 C2 DOMAIN.
624
                          694 FWNAGCOMV 702
                                                                                                                                                                                                                                                                                                                                                                                                               FlyBase; FBgn0004625; norpA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
MEDLINE=88311074; PubMed=2457447;
                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (EC 3.1.4.11) (Phosphoinositide-specific phospholipase C).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         European Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way iffied and this statement is not removed. Usage by and for commercial ities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) IS
MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
C ENZYMES. NORPA IS INVOLVED IN PHOTOTRANSDUCTION.
CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-
bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate +
FWNAGCOMV
                                                                                                                                                                                                                                               SM00239; C2; 1.
SM00148; PLCXC; 1.
SM00149; PLCYC; 1.
                                                                 Similarity
                                                                                                                                                                                                  PS50004; C2_DOMAIN_2; 1.
PS50007; PIPIC_X_DOMAIN; 1.
PS50008; PIPIC_Y_DOMAIN; 1.
                                                                                                                       11pid
320
550
673
334
381
                                                                                                           1095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 email to license@isb-sib.ch).
                                                    Conservative
632
                                                                                                         AA.
                                                                                                                                                                                            degradation;
                                                                                                                        469
666
771
334
381
                                                               0.7%;
                                                                                                        C2 DOMAIN.

BY SIMILARITY.

BY SIMILARITY.

124822 MW; 2D945EF0AC
                                                 Score 9; DB 1; Pred. No. 2.9 0; Mismatches
                                                  0;
                                                                                                                                                               DOMAIN X.
                                                                                                                                                                                         Vision; Transducer
                                                                                                       2D945EF0ACBE69B3 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ormatics rest.
There are no rest.
long as its content
long as its content
                                                              DB 1;
5. 2.9;
                                                 0;
                                                                           Length 1095;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TEMBE of
                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 outstation
                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OF.
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RA Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R.,
RA Jones M., Stavrides G., Almeida J.P., Babage A.K., Bagguley C.L.,
RA Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M.,
Beasley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J.,
RA Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P.,
RA Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
RA Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
RA Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
RA Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
RA Hugher B., Graffana D.V., Griffiths G., Griffiths M.N.D., Gwilliam R., Hall R.E.,
RA Hummond S., Harley J.L., Heath P.D., HO S., Holden J.L., Howden P.J.,
RA Hugher E., Hunt S.E., Jacksoch K., Johnson C.M., Johnson D.,
RA Kay M.P., Kinberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
RA Milne S.A., Matry D., Moore M.J.F., Mullikin J.C., Nickerson T.,
RA Milne S.A., Matery D., Moore M.J.F., Mullikin J.C., Nickerson T.,
RA Milne S.A., Matery D., Moore M.J.F., Dumb R.W., Ramsay H.,
RA Rice C.M., Ross M.T., Scott C.B., Sehra H.K., Shownkeen R., Sims S.,
RA Swann R.M., Sycamore N., Taylor R., Tee Leward C.A., Sulston J.E.,
RA Mintebead S.L., Whittaker P., Willey D.L., Walliams L.W. Williams S.A.,
RA Milneg L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
RA Rogers J.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q15147; Q9UJQ2; Q9BQW5; Q9BQW6; Q9BQW8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alvarez R.A., Ghalayini A.J., Xu P., Hardcastle A., Bhattacharya S., Rao P.N., Pettenati M.J., Anderson R.E., Baehr W.; "CDNA sequence and gene locus of the human retinal phosphoinositide-specific phospholipase-C beta 4 (PLCB4)."; Genomics 29:53-61(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "The DNA sequence and comparative analysis of human chromosome 20."; Nature 414\!:\!865\!-\!871(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A. (ISOFORMS 1; 2
MEDLINE-21638749; PubMed-11780052;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              16-OCT-2001 (Rel. 40, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase beta
(EC_3.1.4.11) (PLC-beta-4) (Phospholipase C-beta-4).
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                                                                                                                                                                                                                                                                   This
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-96079091; PubMed-8530101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                         between
                                                                                                                                                                                                                                                                                                                                                  3; are produced by alternative splicing.
TISSUE SPECIFICITY: PREFERENTIALLY EXPRESSED IN THE RETINA.
SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN FOUR DIFFERENT FORMS
OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (1P3) IS
MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
C ENZYMES. THIS FORM HAS A ROLE IN RETINA SIGNAL TRANSDUCTION.
CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-
bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COFACTOR: Calcium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ALTERNATIVE PRODUCTS: At least 3 isoforms; 1,
                                                                                                                                                                                                                     SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               lycerol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (ISOFORM 1).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AND
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PIB4_RAT
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Best Local S
Matches
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CONFLICT
CONFLICT
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ACT_SITE
VARSPLIC
                                                                                                                                                                                                                                                                  O9OW07; O9Z0G6; O88356;
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinosicol-4.5-bisphosphate phosphodiesterase beta 4
(EC 3.1.4.11) (PLC-beta-4) (Phospholipase C-beta-4).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50007; PIPLC_X_DOMAIN; 1.
PROSITE; PS50008; PIPLC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRINTS; PR00390; PHPHLIPASEC ProDom; PD001202; PI_PLC_Y; SMART; SM00239; C2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MIM; 600810;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Genew;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CONFLICT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SMART;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR001192;
InterPro; IPR000909;
InterPro; IPR001711;
                                                                              STRAIN-Sprague-Dawley; TISSUE-Brain;
MEDLINE-94012687; PubMed-8407970;
Lee C.-W., Park D.J., Lee K.-H., Kim C.G., Rhee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            [nterPro;
J. Biol. Chem. [2]
                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                        PIB4_RAT
                                                           "Purification, molecular cloning, and sequencing of phospholipase
                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                             Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FWNAGCQMV 647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   L41349; AAB02027.1; P10688; IDJX.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PF00388; PI-PLC-X;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AL031652; CAA21068.1;
AL023805; CAC34525.1;
AL023805; CAC34527.1;
AL023805; CAC34528.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PF00387; PI-PLC-Y; 1. PF00388; PI-PLC-X; 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PF00168; C2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SM00149; PLCYC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HGNC: 9059; PLCB4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SM00148; PLCXc; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
9; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         re splicing.
313 463
565 681
788 786
78 375
153
167
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1
447
757
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902
1175
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                       268:21318-21327(1993)
                                                                                                                                                                                                                                                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     degradation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              268
447
757
787
787
840
902
                                                                                                                                            (ISOFORM A)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PI_PLC.
PI_PLC_Xdom.
PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.08; --
                                                                                                                                                                                                                          Chordata;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (IN ISOFORM 1).

MISSING (IN ISOFORM 3

A -> P (IN REF. 1).

F -> L (IN REF. 1).

L -> P (IN REF. 1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 9; ; Pred. No.
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MISSING (IN ISOFORM 1)
LAFMINTNGKIPVR -> MNNN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Transducer; Phosphorylation; Calcium;
                                                                                                                                                                                                                            Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                       Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                v
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN
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V P (IN REF.
V T (IN REF.
V P (IN REF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AB2C8EB99EF57357 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 1175;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
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                                                                                  S.G
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                                                                                                                                                                                                         Murinae;
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                                                                                                                                                                                                           Rattus
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CONFLICT
                                                                                                                                                                                                                                                                                   PROSITE; PS50004; C2_DOMAIN_2.
PROSITE; PS50007; PIPLC_X_DOM
PROSITE; PS50008; PIPLC_Y_DOM
Hydrolase; Lipid degradation;
                                                                                                           VARSPLIC
VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                SMART; SM00239; C2; 1.
SMART; SM00148; PLCXC;
SMART; SM00149; PLCYC;
                                                                                                                                                                                                                                                                                                                                                                                                                           PRINTS; PR00390; PHPHLIPASEC.
ProDom; PD001202; PI_PLC_Y; 1
          CONFLICT
                                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                        Alternative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pfam; PF00168; C2; 1.
Pfam; PF00387; PI-PLC-Y; 1.
Pfam; PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ÉMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   interPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the phospholipase C.";
Biochem. Biophys. Res. Commun. 194:706-712(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kim M.J., Bahk Y.Y., Min D.S., Louis, Conting of cDNA encoding rat phospholipase C-beta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. (ISOFORM B).
STRAIN-Sprague-Dawley; TISSUE-Brain;
MEDLINE-93343926; PubMed-7688223;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Adamski F.M., Timms K.M.,
"A unique isoform of phosp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cerebellum and eye."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=99132015; PubMed=9931434;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE OF 447-1175 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE SPECIFICITY: PREFERENTIALLY EXPRESSED IN THE SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN FOUR OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY. SIMILARITY: CONTAINS 1 C2 DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3) IS MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE C ENZYMES. THIS FORM HAS A ROLE IN RETURA SIGNAL TRANSDUCTION. CATALYTIC ACTIVITY: 1-phosphatidyl-1D-myo-inositol 4,5-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALTERNATIVE PRODUCTS: 3 ISOFORMS; A (SHOWN HERE), PRODUCED BY ALTERNATIVE SPLICING.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COFACTOR: Calcium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   diacylglycerol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chim. Biophys. Acta 1444:55-60(1999).
FUNCTION: THE PRODUCTION OF THE SECOND FUNCTION LIVE PRODUCTION OF THE SECOND FUNCTION LIVE PRODUCTION OF THE SECOND FUNCTION LIVE PRODUCTION LIVE PRODUCTION LIVE PRODUCTION LIVE PROD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SWISS-PROT entry is copyright. It is produced through a collaboration en the Swiss Institute of Bioinformatics and the EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          U57836; AAD10403.1; -. AF031370; AAC98145.1; AF027571; AAC24984.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P10688;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             L15556;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; IPR000008; C2.
; IPR001192; PI_PLC.
; IPR000909; PI_PLC_Xdo
; IPR001711; PI_PLC_Y.
                                                                                                                                                                   splicing. 46
313 46
565 68
688 78
328 32
375 37
                                                                                                           1013
1023
1154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAK13557.1; -.
AAD10403.1; -.
                                                                                                                                                                                                                                                                                                          C2_DOMAIN_2; 1.
PIPLC_X_DOMAIN; 1.
PIPLC_Y_DOMAIN; 1.
                                                                                                        463
681
786
328
375
1022
1175
      255
308
417
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C2 DOMAIN.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
VKEIVAQUTK -> GKQRDASPSG (IN ISOFORM B).
MISSING (IN ISOFORM B).
AKEMQOMVKLEAEMDRRPATVV -> LLKSCHAVSQTQGEG
DAADGEIGSRDGPQTSNSSMKLQNAN (IN ISOFORM
C).
L -> M (IN REF. 2).
R -> A (IN REF. 2).
Q -> E (IN REF. 2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Shieh
                                                                                                                                                                                                                            DOMAIN Y.
                                                                                                                                                                                                                                                                                     Transducer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (ISOFORM C)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В.н.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SECOND MESSENGER MOLECULES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 There are no rest
                                                                                                                                                                                                                                                                                Phosphorylation; Calcium;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IN THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Suh P.G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DIFFERENT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RETINA
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RA Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L.,
RA Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M.,
RA Beasley O.P., Blad C.P., Blakey S.E., Bridgeman A.M., Brown A.J.,
RA Buck D., Burrill W.D., Butler R.P., Carder C., Carter N.P.,
Chark S.Y., Claek C.M., Clark S.Y., Clee C.M.,
RA Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.,
RA Clegy S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
RA Coulson A., Coville G.J., Deadman R., Dhami P.D., Dunn M.,
RA Ellington A.G., Frankland J.A., Frassr A., French L., Garner P.,
RA Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,
RA Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,
RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.
RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.
RA Marsh V.L., Martin S.L., McConnachie L.J., McLay K., McMurray A.A.,
RA Milne S.A., Mastry D., Moore M.J F., Mullikin J.C., Nickerson T.,
RA Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I.,
RA Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsay H.,
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01-NOV-1990 (Rel. 16,
15-JUN-2002 (Rel. 41,
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MEDLINE=90355993; PubMed=2167438;
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Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens (Human).

Motazoa; Chordata;
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15-UUN-2002 (Rel. 41, Last annotation update)
1-phosphatidyllnositol-4,5-bisphosphate phosphodiesterase gamma (EC 3.1.4.11) (PLC-gamma-1) (Phospholipase C-gamma-1) (PLC-II)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN
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                                                                                                                                                                                                                                                                                                                                        Pfam;
Pfam;
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Cell 72:953-960(1993).
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European Bioinformatics Institute
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SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIS
OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY
SIMILARITY: CONTAINS 1 C2 DOMAIN.

SIMILARITY: CONTAINS 2 PH DOMAINS. THE SECOND O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PTM: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-GAMMA 1 AND 2 INVOLVES THEIR PHOSPHORYLATION BY TYROSINE KINASES IN RESPONSE TO LIGATION OF A VARIETY OF GROWTH FACTOR RECEPTORS AND IMMUNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COFACTOR: Calcium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FUNCTION: PLC-GAMMA IS A MAJOR SUBSTRATE FOR HEPARIN-BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PARTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       diacylglycerol
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                                                                                                                                     n; PF00017; SH2; 2.
n; PF00018; SH3; 1.
n; PF00168; C2; 1.
n; PF00169; PH; 2.
n; PF00387; PI-PLC-Y; 1.
n; PF00388; PI-PLC-Y; 1.
NTS; PR0039; PHPHLIPASEC.
NTS; PR00401; SH3DOMAIN.
NTS; PR00452; SH3DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2HSP; 31-AUG-94.
1HSQ; 31-AUG-94.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A36466;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 M34667; AAA36452.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AL022394;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HGNC: 9065; PLCG1.
                                                  PR00452; SH3DOMAIN.
PD000066; SH3; 1.
PD000093; SH2; 2.
PD0001202; PI_PLC_Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BY NMR OF SH3
                                                                                                                                                                                                                                                                                                                                                                                             IPR001711; PI_PLC_Y.
IPR000980; SH2.
IPR001452; SH3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IPR001849;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IPR000008; C2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A36466
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PubMed=7681365;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PI_PLC.Xdom.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 SH2 DOMAINS.
1 SH3 DOMAIN.
1 EF-HAND CALCIUM-BINDING DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               THE SECOND ONE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FACTOR) - ACTIVATED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DIFFERENT FORMS
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RESULT 12
PIG1_RAT
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Best Local S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PROSITE; PS00018; EF_HAND; 1.
PROSITE; PS50001; SH2; 1.
PROSITE; PS50003; PH_DOMAIN; 2.
PROSITE; PS50003; PH_DOMAIN; 1.
PROSITE; PS50004; C2_DOMAIN, 1.
PROSITE; PS50006; PIPIC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-JUL-1989 (Rel. 11, Created)
01-JUL-1989 (Rel. 11, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase gamma
1.cc 3.1.4.11) (PLC-gamma-1) (Phospholipase C-gamma-1) (PLC-II)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
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                                                                                                                                                                                                                                                          MEDLINE-88289733; PubMed-2840660;
Suh P.-G., Ryu S.H., Moon K.H., Suh H.W., Rhee S.
"Inositol phospholipid-specific phospholipase C:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P10686;
                                                                                                                                                                                                             protein sequences and sequence homology to tyrosine kinase-related oncogene products.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PIG1_RAT
                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                     Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PLC-148).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                406 EYPVILSIE 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         408 EYPVILSIE 416
                                                  C ENZYMES.

CATALYTIC ACTIVITY: 1-phosphatidy1-1D-myo-inositol 4,5-
bisphosphate + H(2)0 = D-myo-inositol 1,4,5-trisphosphate
                                                                                                                             C. Nati. Acad. Sci. U.S.A. 85:5419-5423(1988)
C. Nati. Acad. Sci. U.S.A. 85:5419-5423(1988)
CONCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
DIACYLGLYCEROL (DAG) AND INOSITOL 1,4,5-TRISPHOSPHATE (1P3) IS
MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE
                      diacylglycerol
COFACTOR: Calc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SM00252;
SM00326;
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9; Conser
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335
380
771
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    RECEPTOR-MEDIATED
                         Calcium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SH2;
SH3;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
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464
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657
756
851
931
1070
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b; Pred. No. 3.3
0; Mismatches
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V
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PHOSPHORYLATION (BY SIMILARITY).
PHOSPHORYLATION (BY SIMILARITY).
I -> T (IN DBSNP:753381).
/FTId-VAR.011908.
W; AE05ABE2A18EDDAC CRC64;
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BY SIMILARITY
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                                                                                                                                                                                                                                                                                                                                                                                            Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rattus.
    ACTIVATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                      Suh H.W., Rhee S.G.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1290 AA
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      Ç
      PLC-GAMMA 1 AND
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                                                                                                                                                                                                                                                                   complete cDNA
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PRINTS; PR00390; PHPHLIPASEC.
PRINTS; PR00401; SH2DOMAIN.
PRINTS; PR00452; SH3DOMAIN.
ProDom; PD000065; SH3; 1.
ProDom; PD000093; SH2; 2.
ProDom; PD0011002; PI_PIC_Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SMART; SM00239; C2; 1.
SMART; SM00233; PH; 2.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
SMART; SM00252; SH2; 2.
SMART; SM00326; SH3; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE; PS5000
PROSITE; PS5000
PROSITE; PS5000
PROSITE; PS5000
                                                                                     ACT_SITE
                                                                                                                                                                                                                DOMAIN
                                                                                                                                                                                                                                                                  DOMAIN
                                  MOD_RES
                                                                                                                                                                                                                                                                                                                                                                          DOMAIN
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Pfam;
Pfam;
                                                                                                                                        POMAIN
                                                                                                                                                                  DOMAIN
                                                                                                                                                                                          DOMAIN
                                                                                                                                                                                                                                                                                                                        DOMAIN
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PROSITE; PS50001;
PROSITE; PS50002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                        ydrolase;
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SIMILARITY: CONTAINS 1
SIMILARITY: CONTAINS 1
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SIMILARITY: DOMAINS X AND Y ARE CONSERVED
OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACT
SIMILARITY: CONTAINS 1 C2 DOMAIN.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PARTS
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\31317; A31317.
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; IPR000008; C2.
); IPR002048; EF hand.
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320
489
550
668
791
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SH3;
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PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                          -binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; SH2; 2.
; SH3; 1.
; PH_DOMAIN;
                                                                                                                                                                                                                                                                                                                                                                                                                degradation; Transducer;
        464
523
657
756
851
931
1070
1177
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335
3773
773
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PIPLC_X_DOMAIN; 1.
PIPLC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EF_HAND; 1.
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SH3.
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PI_PLC_Y.
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SH3 DOMAIN.
EF-HAND CALCIUM-BINDING
                                                                             DOMAIN Y.
C2 DOMAIN
BY SIMILA
BY SIMILA
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SH2
SH3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2
     PHOSPHORYLATION PHOSPHORYLATION PHOSPHORYLATION
                                                                                                                                                                                                                                                                                                                DOMAIN X
                                                                                                                                                                                                                                                                                                                                  EF-HAND (POTENTIAL)
                                                                                SIMILARITY.
                                                                                                                                                                                  2 (SECOND PART)
                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                     (FIRST
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                                                                                                                                                                                                                                                                                                                                                                                                                SH2 domain;
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Y SIMILARITY).
Y SIMILARITY).
Y SIMILARITY).
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                                   peptide.";
Cell 77:461-472(1994).
-i- FUNCTION: THE PRODUCTION OF THE SECOND MESSENGER MOLECULES
-I- FUNCTION: CAGO AND INOSITOL 1,4,5-TRISPHOSPHATE (IP3)
MEDIATED BY ACTIVATED PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOI
                      -
                                                                                                                                             STRUCTURE BY NMR OF 663-759.
MEDLINE-94236690; PubMed-8181064;
Pascal S.M., Singer A.U., Gish G., Ya.
Pawson T., Kay L.E., Forman-Kay J.D.;
                                                                                                               "Nuclear magnetic resonance structure of an SH phospholipase C-gamma 1 complexed with a high
                                                                                                                                                                                                                      PLC-gamma 1 phosphorylation on Cell 65:435-441(1991).
                                                                                                                                                                                                                                                            Kim H.K., Kim J.W., Zilberstein A., Margolis B., Schlessinger J., Rhee S.G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.
MEDILINS-88156963; Pubmed=2831461;
Stahl M.L., Ferenz C.R., Kelleher K.L., Kriz R.W., Knopf J.L.;
"Sequence similarity of phospholipase C with the non-catalytic region of src.";
                                                                                                                                                                                                                              "PDGF stimulation of inositol phospholipid hydrolysis requires
PLC-gamma 1 phosphorylation on tyrosine residues 783 and 1254.
                                                                                                                                                                                                                                                                                                                                                     cell
                                                                                                                                                                                                                                                                                                                                                       MEDIINE=90154081; PubMed=1689311; Whal M.I., Nishibe S., Kim J.W., Kim H.K., Rhee S.G., Carpenter G. "Identification of two epidermal growth factor-sensitive tyrosine phosphorylation sites of phospholipase C-gamma in intact HSC-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bos taurus (Bovine).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eukaryota; Metazoa; Chordata; Craniata; Pecora; Bovoidea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-AUG-1988 (Rel. 08, Created)
01-AUG-1988 (Rel. 08, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase gamme (EC 3.1.4.11) (PLC-gamma-1) (Phospholipase C-gamma-1) (PLC-II)
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                                                                                                                                                                                                                                                                                           MEDLINE=91208680;
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                                                                                                                                                                                                                                                                                                                                                                                                                    PHOSPHORYLATION SITES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Tyrosine residues in bovine phospholipase C-gamma the epidermal growth factor receptor in vitro.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Kim J.W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=90154080; PubMed=1689310;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nature 332:269-272(1988).
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                 CATALYTIC ACTIVITY:
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9; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
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                                                                                                                                                                                                                                                                                           PubMed-1708307;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  148547 MW;
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100.0%; Pred. No.
1-phosphatidy1-1D-myo-inositol 4,5-
0 = D-myo-inositol 1,4,5-trisphosphate
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                                                                                                                                                            Yamazaki
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5. 3.3;
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                                                                                                               H2 domain of affinity binding
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                                                                                                                                                           Shoelson S.E.,
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SMART; SM00239; C2; 1.
SMART; SM00233; PH; 2.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
SMART; SM00252; SH2; 2.
SMART; SM00326; SH3; 1.
                                                                        DOMAIN
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ACT_SITE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                Hydrol
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ProDom; PD000066; SH3; 1.
ProDom; PD000093; SH2; 2.
ProDom; PD001202; PI_PLC_Y; 1.
                                                                                                                                                                                                                                                                                                                                                                   PRINTS; PR00390; PHPHLIPASEC PRINTS; PR00401; SH2DOMAIN.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the European Bioinformatics Institute.
                          DOMAIN
                                       DOMAIN
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                                                                                                                                              PROSITE; PS50008;
Hydrolase; Lipid c
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             diacylglycerol.
COFACTOR: Calcium.
COFACTOR: Calcium.
2
PTM: THE RECEPTOR-MEDIATED ACTIVATION OF PLC-GAMMA 1 AND 2
INVOLVES THEIR PHOSPHORYLATION BY TYROSINE KINASES IN RESPONSE
TO LIGATION OF A VARIETY OF GROWTH FACTOR RECEPTORS AND IMMUNE
SYSTEM RECEPTORS.
SIMILARITY: DOMAINS X AND Y ARE CONSERVED IN DIFFERENT FORMS
OF PLC AND ARE ESSENTIAL FOR CATALYTIC ACTIVITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY: CONTAINS 2 SH2 DOMAINS.
SIMILARITY: CONTAINS 1 SH3 DOMAIN.
SIMILARITY: CONTAINS 1 EF-HAND CALCIUM-BINDING DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SIMILARITY: CONTAINS 1 C2 DOMAIN. SIMILARITY: CONTAINS 2 PH DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                             ; PF00017; SH2;
; PF00018; SH3;
; PF00168; C2; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S00666;
                                                                                                                                                                                                                                                                                                                                                                                           PF00387; PI-PLC-Y; 1. PF00388; PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                    PF00169;
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                                                                                                                                                          E; PS50001; SH2; 2.
E; PS50002; SH3; 1.
E; PS50002; SH3; 1.
E; PS50004; C2_DOMAIN; 2.
E; PS50004; C2_DOMAIN_2; 1.
E; PS50007; PIFLC_X_DOMAIN; 1.
E; PS50008; PIFLC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ); IFR000008; C2.
); IFR002048; EF-hand.
); IFR001849; PH.
); IFR001192; PI_PLC.
); IFR000909; PI_PLC_Y.
); IFR001711; PI_PLC_Y.
); IFR001452; SH3.
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 n-binding;
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                                                                                                                                              degradation; Transducer;
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                                                                                                                      Phosphorylation;
PH 1.
DOMAIN X.

PH 2 (FIRST PART).

SH2 1.

SH2 2.

SH3 2.

SH3.

PH 2 (SECOND PART).

DOMAIN Y.

C2 DOMAIN.

BY SIMILARITY.
                                                                                                            EF-HAND
                                                                                                           (POTENTIAL)
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                                                                                                                                SH2 domain; S
3D-structure
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Best Local S
Matches S
                                                   EMBL; AF083464; AAC98785.1; -.
EMBL; AB031049; BAA90768.1; -.
EMBL; D78644; BAA11461.1; -.
MGD; MGI:1337131; Rev31
InterPro; IPR002064; DNA_pol_B.
InterPro; IPR004578; Pol2.
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DPOZ_MOUSE STANDARD; PRT; 3122 AA.

Q61493; Q9QWX6; Q9JWD6;
30-MAY-2000 (Rel. 39, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
DNA polymerase zeta catalytic subunit (EC 2.7.7.7) (Seizure related)
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MOD_RES
MOD_RES
MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  differential screening.";
Biochem. Biophys. Res. Commun. 219:795-799
-I- CATALYTIC ACTIVITY: N deoxynucleoside
                                                                                                                                                                                                                                                                                         the European Bioinformatics Institute. There are no rest
use by non-profit institutions as long as its content
modified and this statement is not removed. Usage by an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN-C57BL/6J; TISSUE-Embryonic brain; MEDLINE-96216731; PubMed-8645260;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN-129/Ola; TISSUE-Testis; MEDLINE-99202265; PubMed-10102037; MEDLINE-99202265; PubMed-10102037; Van Sloun P.P.H., Romeijn R.J., Eeken J.C.J.; Van Sloun P.P.H., Romeijn and chromosomal localisation of "Molecular cloning, expression and chromosomal localisation of mouse Rev3l gene, encoding the catalytic subunit of polymerase mutat. Res. 433:109-116(1999).
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Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mus musculus (Mouse)
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                                                                                                                                                                                                                                           or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                          entities requires a
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Kajiwara K., Nagawawa H., Shimizu–Nishikawa K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE OF 2368-3122 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                brain neurons
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Molecular characterization of seizure-related genes
                                                                                                                                                                                                                                                                                                                                                     s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUBCELLULAR LOCATION: Nuclear (Potential).
SIMILARITY: BELONGS TO THE DNA POLYMERASE TYPE-B FAMILY.
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                                                                                                                                                                                                                                                                          tatement is not removed. Usage by and for license agreement (See http://www.isb-sib.
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FIGREAMS; TIGR00592; pol2; 1.
FIGREAMS; TIGR00592; pol2; 1.
FROSITE; PS00116; DNA POLYMERASE_B; 1.
FROSITE; PS00116; DNA directed DNA polymerase; DNA replication;
Fransferase; DNA directed DNA polymerase; DNA replication;
DNA-binding; DNA repair; Nuclear protein; Zinc-finger.
DNA-binding; DNA repair; Nuclear protein; Zinc-finger.
DNA-binding; DNA repair; C4-TYPE (POTENTIAL).
C4-TYPE (POTENTIAL).
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                                                                                                        the European Bioinformatics Institute. There are no rest
use by non-profit institutions as long as its content
modified and this statement is not removed. Usage by an
entities requires a license agreement (See http://www.isb-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDIINE-91244831; PubMed-2037596;
Xiang M., Ge T., Tomlinson C.R., Klein W.H.;
"Structure and promoter activity of the LpS1 genes of Lytechinus
pictus. Duplicated exons account for LpS1 proteins with eight calcium
binding domains.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            iytechinus pictus (Painted sea urchin).
Eukaryota; Metazoa; Echinodermata; Eleutherozoa; Echinozoa;
Echinoidea; Euechinoidea; Echinacea; Temnopleuroida; Toxopn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-FEB-1995 (Rel. 31, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
                       EMBL; M62848;
HSSP; P02593;
                                                                                       or send an email to license@isb-sib.ch).
                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
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nterPro;
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nes 9; Conserv
                                                                                                                                                                                                                                                                                                                                                      BIOL. Chem. 266:10524-10533(1991).

FUNCTION: CALCIUM-BINDING PROTEIN INVOLVED IN LARVAL DEVELOPMENT AND METAMORPHOSIS. LIKELY TO FUNCTION AS CALCIUM BUFFERS MEDIATING THE TRANSPORT OF CALCIUM FROM THE SEA WATER TO THE BLASTOCOEL WHERE CALCIUM IS REQUIRED FOR SKELETON FORMATION.

TISSUE SPECIFICITY: ABORAL ECTODERM, A SQUAMOUS EPITHELIUM COVERING THE SURFACE OF THE LATE STAGE EMBRYO AND LARVA.
                                                                                                                                                                                                                                                                     SIMILARITY: TO OTHER EF-HAND CALCIUM BINDING PROTEINS, MORE SPECIFICALLY TO SPECS.
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  IPR002048; EF-hand
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A -> T (IN REF. 2).
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L -> P (IN REF. 2).
L -> F (IN REF. 2).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 243
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O89040 rattus norv
O89041 xenopus lae
O91086 meleagris g
P78708 neurospora
                                                                                                                    Q9h8h5 homo
O97037 hydra
                                                                                                                                                           Q9h9u2 homo sapien
Q9upt3 homo sapien
                                                                                                                                                                                                  Q8teh5
                                                                                                                                                                                                                            Description
                                                                                                                                                Q9cucl mus musculu
             Q9jkm2 mus
                                                                                                                                                                                    homo sapien
                                                                                                                      hydra magni
                                                                                                                                 sapien
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11 0.9 1103 4 Q9UHY3 Q9uhv3 homo sapien 097033 ephydatia f 11 0.9 1609 4 Q9P712 Q9P712 Q9P712 A09P712 A09P712 Q9P712 A09P712 Q9P712 A09P712 A09P712 Q9P712 A09P712 Q9P712 Caenorhabdi 11 0.9 1898 5 Q9F712 Q9P712 Q9P712 Caenorhabdi 11 0.9 1898 1 Q9P84 Macaca sapien 10 0.8 756 11 Q8R3B1 Q62711 Q63693 rattus norv 10 Q8 895 5 Q9F712 Q9F71 Q62711 rattus norv 10 Q8 895 5 Q9F71 Q62711 rattus norv 10 Q8 895 5 Q9F711 Q6268 Q9F71 Q6268 rattus norv 10 Q8 10 Q9F71 Q9F74 Q9F74 Macaca fasc 10 Q9F74 Q9F74 Q9F74 Macaca fasc 10 Q9F74 Q9F74 Q9F74 Q9F74 Q9F74 Q9F74 Macaca fasc 10 Q9F74 Q9F74 Q9F74 Q9F74 Macaca fasc 10 Q9F74 Q9F74 Q9F74 Q9F74 Q9F74 Q9F74 Q9F74 Q9F74 Macaca fasc 10 Q9F74 Q9F74 Macaca fasc 10 Q9F74 Macaca
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4 Q9UHV3 Q9UhV3 Q9UhV3 h Q9P213 Q9P212 Q9P212 Q9PV12 c Q9TV12 Q9TV12 c Q9TV12 Q9TV12 c Q9P253 Q9P254 Q9P254 Q9P254 Q9P256 h Q9PBX6 Q9PBX6 Q9PBX6 p Q9PBX6 q
Q9UHV3 Q9UHV3 Q9P033 Q9P212 Q9P212 Q9PV12 Q9PV12 Q9PV12 Q9PV22 Q9PV23 Q9PV23 Q9PV24 Q9HEX6 Q9
Q9uhv3 h Q97033 e Q97033 e Q97012 c Q9tv12 c Q9tv12 c Q9tv2 c Q9tv2 c Q9tv2 c Q9p84 e Q9p94 e

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01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (JAN-2002) to the EMBL/GenBank/DDBJ databases EMBL; AK074149; BAB84975.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q8TEH5;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Jikuya H., Takano J., Nomura N., Kikuno R., Nagase T., Ohara ^{"}The nucleotide sequence of a long cDNA clone isolated from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FLJ00222
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126
                               677 IYPSSYRVDSSNYNPQPFWNAGCOMVALNYQSEGRMLQLNRAKFSANGGCGYYLKPGCMC 736
                                                                                                                                                                                                                             617
                                                                                                                                                                                                                                                                                                                                    557 ESGEDAGASRRNGRLVVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTM 616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                  66
                                                                                                                                          KLSRALSDLVKYTKSVATHDIEMEAASSWQVSSFSETKAHQILQQKPAQYLRENQQQLSR 676
IYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMC 185
                                                                                                                                                                                                                                                                                                        ESGEDAGASRRNGRLYVGSFSRRKKKGSKLKKAASVEEGDEGQDSPGGQSRGATRQKKTM 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         656 AA; 70138 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               45.6%;
99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 550;
Pred. No. 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1E65D386AB07F1DA CRC64;
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                                                                       Query Match
Best Local
                                                          Matches
                                                                                                                                                                                                                                            Strausberg R.;
Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; BC019679; AAR119679.1; -.
InterPro; IPR000008; C2.
InterPro; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                           Pfam; PF00168; C2; 1.
Pfam; PF00387; PI-PLC-Y; 1.
PRINTS; PR00360; C2DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                01-MAR-2002 (TrEMBLrel. 20, Created)
01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1037
                                                                                                                                                    PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50008; PIPLC_Y_DOMAIN; 1.
                                                                                                                                                                                  ProDom; PD001202; PI_PLC_Y; 1.
                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutele
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                          Hypothetical 75.7 kDa protein (Fragment).
Homo sapiens (Human)
                                697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QBWUS6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1157
                                                                                                                EQUENCE
                                                                                                                               ON_TER
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                                                                                                                                         ypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=9606;
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                                                                                                                                                                                                                                                                                                                                          EQUENCE FROM N.A.
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              AGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNSEDPLPGQLKKQL 756
AGCQMVALNYQSEGRMLQLNRAKFSANGGCGYVLKPGCMCQGVFNPNSEDPLPGQLKKQL 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VYLPHAPGMAGPGSPAAASAWTVSPRVLVLVALYPWHCLRGTLLPWLACGP 1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VVLPHAPGMAGPGSPAAASAWTVSPRVLVLVALYPWHCLRGTLLPWLACGP 656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SDSSSPDSPGIPERSPRWPEGACRQPGALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPC 1156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PSPGPASRQAAIRQQPRARADSLGAPCCGLDPHAIPGRSREAPKGPGAWRQGPGGSGSMS 1096
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SDSSSPDSPGIPERSPRWPEGACRQPGALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   V$QRILRRTASAPTK$QKPGRRGFPELYLGTRDTGSXGYADDVVPPPGPGPAPAAQEGP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VSQRILRTTASAPTKSQKPGRRGFPELVLGTRDTGSKGVADDVVPPGPGPAPEAPAQEGP 425
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                                                                       Similarity
                                                                                                              716 AA; 75724 MW; 148244B142852AB0 CRC64;
                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
                                                                    23.7%;
                                                         0;
                                                                   Score 286; DB 4; Length 716; Pred. No. 5.2e-292;
                                                                                                                                                                                                                                                                                                                                                                                             Craniata; Vertebrata; Euteleostomi;
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                                                       Mismatches
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                                                                                                                                                                                                                                  Matches
      Q9UPT3 PRELIMINARY;
Q9UPT3;
01-MAY-2000 (TrEMBLrel. 13, I
01-MAY-2000 (TrEMBLrel. 21, I
01-JUN-2002 (TrEMBLrel. 21, I
RIAA1069 protein (Fragment).
                                                                                                                                                                                                                                                                                        PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50008; PIPIC_Y_DOMAIN; 1.
SEQUENCE 466 AA; 52711 MW; 070CI
                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; AK022610; BAB14129.1; HSSP; P10688; 1DJH. InterPro; IPR000008; C2. InterPro; IPR001119; PI_PLC. InterPro; IPR001711; PI_PLC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "NEDO human cDNA sequencing project.";
Submitted (AUG-2000) to the EMBL/GenBank/DDBJ databases
EMBL; AK022610; BAB14129.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
ISOGAI T., Ota T., Hayashi K., Sugiyama T., Otsuki T., Suzuki Y.,
Nishikawa T., Nagai K., Sugano S., Ishibashi T., Fujimori K.,
Tanai H., Kimata M., Watanabe M., Hiraoka S., Ishii S., Kawai Y.,
Saito K., Yamamoto J., Wakamatsu A., Nakamura Y., Nagahari K.,
Landho V. Eanchori F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
CDNA FL/12548 fis, clone NTZRM4000657, weakly similar to
1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase
(EC 3.1.4.11).
                                                                                                                                                                                                                                                                                                                                      PRINTS; PR00390; PHPHLIPASEC.
ProDom; PD001202; PI_PIC_Y; 1
SMART; SM00239; C2; 1.
SMART; SM00149; PICYC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                      Pfam; PF00168; C2; 1.
Pfam; PF00387; PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (Human).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9606;
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                                                                                                                                                                                   821 VHMPEIALVRFLVWDHDPIGRDF 843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Masuho Y., Kanehori K.;
                                                                                                                                                                    251 VHMPEIALVRFLVWDHDPIGRDF
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                                                                                                                                                                                                                                               Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VSDISGKVKQALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RRGFPELVLGTRDTGSKGVADDVVPPGPGPAPEAPAQEGPGSGSPR 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VSDISGKVKQALGLKGLFLRGPKPGSLDSHAAGRPPARPSVSQRILRRTASAPTKSQKPG
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                                                                                                                                                                                                                                               Similarity
                     (TrEMBLrel. 13, Created)
(TrEMBLrel. 13, Last sequence up
(TrEMBLrel. 21, Last annotation
                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                    PI_PLC_Y.
                                                                                                                                                                                                                                               100.0%;
                                                                                                                                                                                                                                                                 1.9%;
                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                               Score 23;
; Pred. No.
                                                                                          PRT;
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                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                             070CD43363C772ED CRC64;
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                                                                                                                                                                                                                                               8e-15;
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RESULT
OPCICLT
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Adult male testis cDNA, RIKEN full-length enriched clone:4933427D11, full insert sequence (Fragment).
Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y., Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S., Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka II., Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R., Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T., Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa H., Kuehl P., Lewis S., Matsuc Y., Nikaido I., Pesole G., Quackenbush Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G., Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F., Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M., Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50007; PIPIC_X_DOMAIN;
PROSITE; PS50008; PIPIC_X_DOMAIN;
NON_TER 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRINTS; PR00360; C2DOMAIN.
PRINTS; PR00390; PHPHLIPASEC
ProDom; PD001202; PI_PLC_Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kikuno R., Nagase T., Ishikawa K., Hirosawa M., Miyajima N., Tanaka A., Kotani H., Nomura N., Ohara O.;
"Prediction of the coding sequences of unidentified human genes. XIV. The complete sequences of 100 new cDNA clones from brain which code
                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
STRAIN-C57BL/6J; TISSUE-TESTIS;
MEDLINE-21085660; PubMed-11217851;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; AB02899
HSSP; P10688;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE-99397452; PubMed-10470851;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       821 VHMPEIALVRFLVWDHDPIGRDF 843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             584 VHMPEIALVRFLVWDHDPIGRDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               large proteins in vitro.";
Res. 6:197-205(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sapiens (Human).
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SM00148; PLCXC; 1.
SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AB028992;
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IPR001192; PI_PLC.
IPR000909; PI_PLC_Xdom.
IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        787 AA; 89169 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PI-PLC-X; 1.
PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BAA83021.1; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.9%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2EFC0355E4CDFC8D CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 4;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             library,
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Q9H8H5
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Best Local S
Matches 12
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Pfam; PF00388; PI-PLC-X; 1.
PRINTS; PR00390; PHPHLIPASEC.
SMART; SM00054; EFh; 3.
SMART; SM00233; PH; 1.
SMART; SM00233; PH; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      O9H8H5 PRELIMINARY; PRT; 639 AA.
O9H8H5,
O9H8H5,
O1-MAR-2001 (TrEMBLrel. 16, Created)
O1-MAR-2001 (TrEMBLrel. 16, Last sequence update)
O1-JUN-2002 (TrEMBLrel. 21, Last annotation update)
CDNA FLJ13627 fis, clone PLACE1011046, highly similar to
                                                                                                                                                                                                                                                                             InterPro;
InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE; PS50003; PH_DOMAIN; 1.
PROSITE; PS50007; PIPIC_X_DOMAIN; 1.
NON_TER 447 447
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                       Pfam; PF00387; PI-PLC-Y; 1.
PRINTS; PR00390; PHPHLIPASEC.
ProDom; PD001202; PI_PLC_Y; 1.
SMART; SM00239; C2; 1.
SMART; SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                           EMBL;
                                                                                                                                                                                                                                                                                                                                                                                              Isogai T., Ota T., Hayashi K., Sugiyama T., Otsuki T., Suzuki Y., Nishikawa T., Nagai K., Sugano S., Takahashi-Fujii A., Hara H., Tanase T., Nomura Y., Togiya S., Komai F., Hara R., Takeuchi K., Arita M., Nabekura T., Ishii S., Kawai Y., Saito K., Yamamoto J., Wakamatu A., Nakamura Y., Nagahari K., Masuho Y., Oshima A.; "NEDO human CDNA sequencing project."; Submitted (AUG-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens (Human).
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR001192; PI_PLC.
InterPro; IPR000909; PI_PLC_Xdom.
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                                                                                                                                InterPro; IPR001192; PI_PLC.xdom.
InterPro; IPR000909; PI_PLC_xdom.
InterPro; IPR001711; PI_PLC_x.
Pfam; PF00158; C2; 1.
pfam; PF00388; PI-PLC-x; 1.
pfam; PF00388; PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                                                                                                   Submitted (AUG-2000) to the EMBL; AK023689; BAB14641.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FISSUE=PLACENTA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=9606;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    σ
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                                                                                                                                                                                                                                                                                                                                           P10688; 1DJX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    l Similarity
12; Conserv
  PS50004; C2_DOMAIN_2; 1
                                                                                                                                                                                                                                                                                                                 IPR000008; C2.
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447 AA;
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100.0%; Pred. No.
tive 0; Mismatc
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RESULT
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SQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Phospholipase C cDNAs from sponge and hydra: Antiquity of involved in the inositol phospholipid signaling pathway."; Submitted (SEP-1998) to the EMBL/GenBank/DDBJ databases. EMBL; ABO17513; BAA76278.1; -. HSSP; P10688; 1QAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tches
                                                                  01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Hypothetical 87.6 kba protein.
Homo sapiens (Human)
                                                                                                                                                                                         Q9BRC7;
Q9BRC7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS500007; PIPIC_X_DOMAIN; 1.
PROSITE; PS500008; PIPIC_Y_DOMAIN; 1.
SEQUENCE 738 AA; 84469 MW; 058120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRINTS; PR00390; PHPHLIPASEC.
PTODOM; PD0012002; PI_PLC_Y; 1.
SMART; SM00239; C2; 1.
SMART; SM00148; PLCYC; 1.
SMART; SM00149; PLCYC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00168; C2; 1.
Pfam; PF00036; efhand; 2.
Pfam; PF00388; PI-PLC-X; 1.
Pfam; PF00387; PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      O97037 PRELIMINARY; PRT; 738 AA.
O97037;
O1-MAY-1999 (TYEMBLIFEL 10, Created)
O1-MAY-1999 (TYEMBLIFEL 10, Last sequence update)
O1-JUN-2002 (TYEMBLIFEL 21, Last annotation update)
PLC-deltaH.
PLC-deltaH.
Hydra magnipapillata (Hydra).
Eukaryota; Metazoa; Cnidaria; Hydrozoa; Hydroida; Anthomedusae;
Hydraidae; Hydra.
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PROSITE;
NON_TER
                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
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InterPro; IPR002048; EF-hand.
InterPro; IPR001192; PI-PLC.
InterPro; IPR001192; PI-PLC_Xdom.
InterPro; IPR001711; PI-PLC_Y.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               694 FWNAGCOMVALN 705
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12; Conserv
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PS50008;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    1.0%; Score 12;
100.0%; Pred. No.
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Pred. No.
                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       058120C26A61A8A6 CRC64;
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Best Local
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SMART; SM00234; EFb; 3.

SMART; SM00054; EFb; 3.

SMART; SM00148; PLCXC; 1.

SMART; SM00149; PLCYC; 1.

SMART; SM00149; PLCYC; 1.

PROSITE; PS50004; C2_DOMAIN_2; 1.

PROSITE; PS500018; EE_HAND; UNKNOWN_2.

PROSITE; PS50003; PH_DOMAIN; 1.

PROSITE; PS50008; PIPLC_X_DOMAIN; 1.

PROSITE; PS50008; PIPLC_X_DOMAIN; 1.
                                                                                                                                                   Smith T.P.L.;
Submitted (APR-2002) to the EMBL/GenBank/DDBJ databases
EMBL; AF498759; AAM18122.1; -
SEQUENCE 772 AA; 88075 MW; 86E5706A74247548 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR001849; F
InterPro; IPR001192; F
InterPro; IPR000909; F
InterPro; IPR001711; F
                                                                                                                                                                                                                                                                                                                                                                                  01-JUN-2002 (TIEMBLITE1. 21, 01-JUN-2002 (TIEMBLITE1. 21, 01-JUN-2002 (TIEMBLITE1. 21, Phospholipase C delta 4. Sus scrofa (Pig).
                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q8SPR7;
                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9823;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q8SPR7
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SEQUENCE 7
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  310
                                        335 SSHNTYLVGDQL 346
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EMBL; BC006355; AAH06
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SSHNTYLVGDQL
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PF00388; PI-PLC-X; 1.
PF00387; PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PF00168; C2; 1.
PF00036; efhand; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P10688; 1QAS
                                                                                                             Similarity
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p; IPR002048; EF-hand.
p; IPR001849; PH.
p; IPR001192; PI_PLC.
p; IPR0001909; PI_PLC_Xdom.
p; IPR0001711; PI_PLC_Y.
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762 AA; 8
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Llarity 100.0%;
Conservative
                                                                                       Conservative
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                                                                                                             1.0%;
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Last annotation update)
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                                                                                     Mismatches
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                                                                                                             DB 6;
0.005;
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                                                                                                                             Length 772;
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Best Local
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Pfam; PF00388; PI-PLC-Y; 1.
Pfam; PF00387; PI-PLC-Y; 1.
Pfam; PF00387; PI-PLC-Y; 1.
PRODOM; PF001202; PI_PLC_Y; 1.
PRODOM; PF001202; PI_PLC_Y; 1.
SMART; SM00149; PLCXC; 1.
SMART; SM00149; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50004; C2_DOMAIN_3; 1.
PROSITE; PS50008; PIPLC_X_DOMAIN; 1.
PROSITE; PS50008; PIPLC_X_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              097035;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Koyanagi M., Ono K., Suga H., Iwabe N., Miyata T.;
"Phospholipase C cDNAs from sponge and hydra: Antiquity of
involved in the inositol phospholipid signaling pathway.";
Submitted (SEP-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; ABO1751; BAA76276.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAY-1999 (TrEMBLrel. 10, Created)
01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hydra magnipapillata (Hydra).
Eukaryota; Metazoa; Cnidaria; Hydrozoa; Hydroida; Anthomedusae;
Hydridae; Hydra.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PLC-betaH1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN-105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID-6085;
                                                                                                                                                                                                                                                               01-NOV-1998 (TrEMBLrel. 08, Created)
01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
            Interpro; IPR000008; C2.
Interpro; IPR001192; PI_PLC.
Interpro; IPR001999; PI_PLC_Xd
Interpro; IPR001711; PI_PLC_Y.
Pfam; PF00168; C2; 1
                                                                                                                                TISSUE=GUSTATORY;
Roessler P., Kroner C., Freitag J., Noe J., Breer H.;
"Identification of a phospholipase C beta subtype in
                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                       Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                     Phospholipase C beta 2.
                                                                                                                                                                                                                                                                                                       089040;
                                                                                                                                                                                                                                                                                                                     089040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                   609
                                                                                           EMBL;
                                                                                                          Submitted (SEP-1998) to the
                                                                                                                     cells
                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                            694 FWNAGCOMVALN 705
                                                                                HSSP;
                                                                                                                                                                                                                                                                                                                                                                                    FWNAGCQMVALN 620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P10688; 1DJX
                                                                                           AJ011035; CAA09465.1;
  PF00388;
                                                                                P10688;
                                                                                                                                                                                                                                                                                                                                                                                                                                        12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; IPR000008; C2.
; IPR001192; PI_PLC.
; IPR000909; PI_PLC_xdo
; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1012 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                      PRELIMINARY;
  PI-PLC-X; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                    100.08; **
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           116186 MW; BD7CF51F96A23118 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.0%; Score 12;
100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   _Xdom.
                                                                                                          EMBL/GenBank/DDBJ databases
                                            _xdom
                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1012
                                                                                                                                                                                                                                                                                                                      1183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A
                                                                                                                                                                                                                                                                                                                                                                                                                                                       0.0064;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 1012;
                                                                                                                                      in rat taste
                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
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                                                 PAR REPORTED TO SERVICE SERVIC
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PRO030); PHPHLIPASEC.
PRON30; PRO01202; PI_PLC_Y; 1.
SMART; SM00139; C2; 1.
SMART; SM00149; PLCYC; 1.
SMART; SM00149; PLCYC; 1.
SMART; SM00149; PLCYC; 1.
PROSITE; PS500004; C2_DOMAIN_2; 1.
PROSITE; PS500007; PIPLC_X_DOMAIN; 1.
PROSITE; PS500008; PIPLC_X_DOMAIN; 1.
SEQUENCE 1183 AA; 134882 MW; BA3AD6
                                                                                                         PRINTS; PRO0390; PHPHLIPASEC.
PRODOM: PD001202; PI_PLC_Y; 1.
SMART; SM00129; C2; 1.
SMART; SM00148; PLCXC; 1.
SMART; SM00149; PLCXC; 1.
SMART; SM00149; PLCYC; 1.
PROSITE; PS50004; C2_DOMAIN_2; 1.
PROSITE; PS50007; PIPLC_X_DOMAIN; 1
PROSITE; PS50008; PIPLC_X_DOMAIN; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q92137;
Q92137;
Q1-NOV-1996
Q1-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam; PF00387; PI-PLC-Y; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-UN-2002 (TrEMBLrel. 21, Last annotation update)
Phospholipase C beta type (EC 3.1.4.3) (LIPOPHOSPHODIESTERASE I)
(Lecithinase C) (Clostridium WELCHII alpha-toxin) (Clostridium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Ver
Amphibia; Batrachia; Anura; Mesobatrachia;
Xenopodinae; Xenopus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OEDEMATIENS beta- and gamma-toxins).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Receptor-evoked C1- current in Xenopus oocytes is mediated through a beta-type phospholipase C. Cloning of a new form of the enzyme."; J. Biol. Chem. 268:19915-19918(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PLC1.
                                                                                                                                                                                                                                                                                                                                                   Pfam; PF00168; C2; 1.
Pfam; PF00388; PI-PLC-X; 1.
Pfam; PF00387; PI-PLC-Y; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -i- COFACTOR: ZINC.
EMBL; L20816; AAA03065.1; -.
EMBL; Y15901; CAA75861.1; -.
HSSP; P10688; 1QAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (DEC-1997) to the EMBL/GenBank/DDBJ databases. 
 -i- CATALYTIC ACTIVITY: A PHOSPHATIDYLCHOLINE + H(2)O = 1,2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=93388545; PubMed=8397190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=8355;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   624 FWNAGCOMVALN 635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              694 FWNAGCOMVALN 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rawlings
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR001192; PI_PLC.
InterPro; IPR000909; PI_PLC_Xdom.
InterPro; IPR001711; PI_PLC_Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               yengar R.;
                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nterPro; IPR000008; C2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity 100.0%; les 12; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DIACYLGLYCEROL + CHOLINE
                                                           1210 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1.0%; Score 12; DB 11; 100.0%; Pred. No. 0.0073;
                                                           138649 MW; E414CF70EC0F36DC CRC64;
1.0%; Score 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1210 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 1183;
      Length 1210;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Euteleostomi;
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Query Match

DB 13;

Best Local

Similarity

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local
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Pfam; PF00388; PI-PLC-X; 1.

Pfam; PF00387; PI-PLC-X; 1.

PFAM; PF00387; PI-PLC-Y; 1.

PRINTS; PR00390; PHPHLIPASEC.

PRODCOM; PF001202; PI_PLC_Y; 1.

SMART; SM00239; C2; 1.

SMART; SM00148; PLCXC; 1.

SMART; SM00149; PLCYC; 1.
                                                                                     Neurospora crassa.
Rukaryota; Fung1; Ascomycota; Pezizomycotina; Sordariomycetes;
Sordariales; Sordariaceae; Neurospora.
NCBI_TaxID=5141;
                                                                                                                                                                                                                                                               01-MAY-1997 (TremBirel 03, Created)
01-MAY-1997 (TremBirel 03, Last sequence update)
01-JUN-2002 (TremBirel 21, Last annotation update)
WEDLINE=97306430; PubMed=9163731;
                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                            NCPLC-2.
                                                                                                                                                                                                                                        Phosphoinositide-specific phospholipase C (Fragment).
                                                                                                                                                                                                                                                                                                                                                                      P78708;
                                                                                                                                                                                                                                                                                                                                                                                                   P78708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q91086 PRELIMINARY; PRT; 1211 AA.
Q91086;
Q91086;
Q1-NOV-1996 (TrembLrel. 01, Created)
Q1-NOV-1996 (TrembLrel. 01, Last sequence update)
Q1-JUN-2002 (TrembLrel. 21, Last annotation update)
Phospholipase C beta.
Meleagris gallopavo (Common turkey).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE; PS50004; C2_DOMAIN 2; 1.
PROSITE; PS50007; PIPIC_X_DOMAIN; 1.
PROSITE; PS50008; PIPIC_Y_DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR000008; C2.
InterPro; IPR001192; PI_PLC.
InterPro; IPR000909; PI_PLC_Xdom.
InterPro; IPR001711; PI_PLC_X.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          erythrocytes.
Biochem. J. 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Waldo G.L., Paterson A., Boyer J.L., Nicholas R.A., Harden T.K., "Molecular cloning, expression and regulatory activity of G alpha 11-and beta gamma-subunit-stimulated phospholipase C-beta from avian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  312 QDMTQPLSHYFI 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  322 QDMTQPLSHYFI 333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
MEDLINE=96257751; Pubmed=8687401;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Archosauria; Aves; Neognathae; Galliformes; Meleagrididae; Meleagris.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=9103;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        14
                             SSUE=MYCELIUM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           650 FWNAGCOMVALN 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                694 FWNAGCOMVALN 705
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12;
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P10688; 1QAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1211 AA; 139061 MW;
                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       316:559-568(1996).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1.0%; Score 12; DB 13; 100.0%; Pred. No. 0.0075;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                          PRT;
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                                                                                                                                                                                                                                                                                                                                                                                     32 AA.
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PRODOM: PD001202; PI_PLC_Y; 1.
SMART; SM00239; C2; 1.
SMART; SM00249; PLCYC; 1.
SMART; SM00144; RA; 1.
PROSTITE; PS50004; C2_DOMAIN_2; 1.
PROSTITE; PS50006; PIPLC_Y_DOMAIN; 1.
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InterPro;
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01-OCT-2000
01-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pfam; PF00168; C2; 1.
Pfam; PF00387; PI-PLC-Y; 1.
Pfam; PF00788; RA; 1.
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MGD; MGI:1921305; Plce1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "A novel transgenic marker for migrating limb muscle precursors and for vascular smooth muscle cells.";
Dev. Dyn. 220:60-73(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Tidhar A., Reichenstein M., Cohen D., Gilbert D.J., Jenkins N.A., Shani M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
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01-OCT-2000 (TrEMBLrel 15, Last sequence update)
01-JUN-2002 (TrEMBLrel 21, Last annotation update)
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"Identification of putative phosphoinositide-specific phospholipase
genes in filamentous fungi.";
Mol. Cells 7:192-199(1997).
EMBL; U65687; AAB39567.1; -.
HSSP; P10688; 1DJX.
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; IPR001192; PI_PLC.
; IPR001711; PI_PLC_Y.
; IPR000159; RA_domain.
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                                                                                                                                                                                                                                       622 AA;
                                                                           Conservative
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                                                                                                                                                                                                                  69951 MW; 523525661DFED363 CRC64;
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                                                          0.9%; Score 11; DB 11; Length 622; 100.0%; Pred. No. 0.047; tive 0; Mismatches 0; Indels
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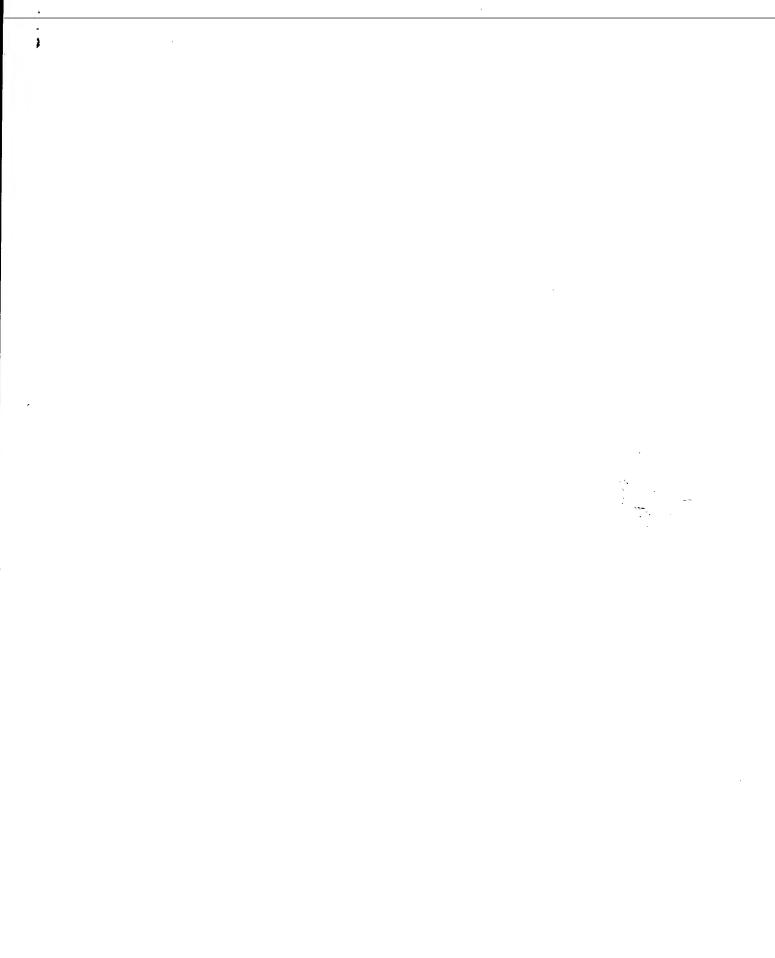
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US-09-228-938A-4
US-09-228-938-32-38
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Sequence 5, Appli
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Match	ABSULT 2  Sequence 2, Application patent No. 6391606 GENERAL INFORMATION: APPLICANT: GUEGLER, ITILE OF INVENTION: TITLE OF SEQUENCE: CLOOK CURRENT APPLICATION OF SEQUENCE: FastSEQ ID NOS SOFTWARE: FastSEQ for SEQ ID NO 2 LENGTH: 736 TYPE: PRT ORGANISM: Human US-09-738-884-2	Match Scal Si 10; NGGCG	RESULT 1  US-09-738-884-5  Sequence 5, Application US/097  PATENT NO. 6391606  GENERAL INFORMATION: APPLICANT: GUEGLER, KAR1 et a TITLE OF INVENTION: INCLEIC TITLE OF INVENTION: MUCLEIC TITLE FOR INVENTION: PROTEINS FILE REFERENCE: CL000849  CURRENT APPLICATION NUMBER: U CURRENT FILING DATE: 200-12  NUMBER OF SEQ ID NOS 5  SOFTWARE: FASTSEQ for Windows SEQ ID NO 5  LENGTH: 744  TYPE: PRT ORGANISM: Mus musculus US-09-738-884-5	777	11111111111111
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7%; Sc	WS 12 US Da 97	0%; Scor 0%; Pre 0; M	38884 1 1 HUMAN ACID 7, ANU 18/09,	S. OS.	2 US-08-0 4 US-09-1 6 US-09-1 7 US-08-1
Score 9;	PHOSP MOLECU USES 738,88	red. No. 0. Mismatches	ŭ J **-	09-445-472 09-445-472 09-535-008 08-852-153 ALIGNMENTS	9-210-1 9-210-1 9-120-7 9-120-7 9-247-1 8-570-1 9-240-5 9-240-5 9-165-2 9-168-3 9-464-3
DB 4:	HOLIPAS LLES ENC THEREOP 14	. 0.32; ches	HERE	4.0.4	930-092-2 -118-197-2 -120-772-2 -445-472-1 -247-155-9 -570-157-9 -570-157-3 -240-639-1 -165-241-1 -068-395A-1 -464-365-3 -464-365-3 -464-365-3 -464-365-3
Length	PROT	0;	SE PROTI		
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	PHOSPHOLIPASE	0;	PHOSPHOLIPAS		Sequence 2 Sequence 2 Sequence 2 Sequence 9 Sequence 9 Sequence 3 Sequence 1 Sequence 1 Sequence 1 Sequence 1 Sequence 3 Sequence 3 Sequence 3 Sequence 3 Sequence 3
	LIPASE	Gaps	LIPASE	4, Appl 63, Appl 4, Appl	2, Appli 2, Appli 2, Appli 2, Appli 1, Appli 3, Appli 3, Appli 1,

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us-08¦138-133-2
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US-08-138-641-2
                                                                                                                                                                                                                                            Sequence 2, Application US/08138133 Patent No. 5519163 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
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Matches 9; Conserv
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APPLICANT: KODLAN, Kenneth S.
APPLICANT: KODLAN, Kenneth S.
APPLICANT: Pompliano, David L.
TITLE OF INVENTION: ASSAY TO DETERMINE INHIBITORS OF
TITLE OF INVENTION: PHOSPHOINOSITIDE-SPECIFIC PHOSPHO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER: 189
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908) 594-3903
TELEFAX: (908) 594-4720
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                          APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY AGENT INFORMATION:
NAME: Muthard, David A.
REGISTRATION NUMBER: 35,297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Flopy disk
COMPUTER: HM PC compatible

                                   CORRESPONDENCE ADDRESS:
                                                                 NUMBER OF SEQUENCES:
                                                                                      TITLE OF INVENTION:
                                                                                                                                                                                                                    APPLICANT: GIBBS, JACKSON B.
                                                                                                                                                                                                                                                                                                                                                                                                                                  406 EYPVILSIE 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   408 EYPVILSIE 416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
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STRANDEDNESS: single
TOPOLOGY: linear
                ADDRESSEE:
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STATE: New Jersey
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/08/138,641
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                                                                                                                                     KOBLAN, KENNETH S.
MACLEOD, ANGUS M.
MERCHANT, KEVIN J.
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P.O. Box 2000, 126 E. Lincoln Avenue
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
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             DAVID A. MUTHARD
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                                                                                      INHIBITORS OF PHOSPHOINOSITIDE-SPECIFIC PHOSPHOLIPASE C
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Pred. No.
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o. 5.6;
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                                                                            FILING DATA: 435
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/477
APPLICATION NUMBER: 07/279
07/299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: (908) 594-47 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                 SOFTWARE: FastSEQ for Windows Version 2.0b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: LEWICKI, J. APPLICANT: SCARBOROUGH, R.M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: MUTHARD, DAVID A.
REGISTRATION NUMBER: 35,297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE: (908) 594-3903
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MEDIUM TYPE: Floppy disk
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APPLICATION NUMBER: FILING DATE: 14-JUI
                                              APPLICATION NUMBER: 07/2 FILING DATE: 19-JAN-1989
                                                                                                                                                                                                                                                                                                          COMPUTER: IBM Compatible OPERATING SYSTEM: Windows
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET:
                                                                                                                                                                                                                                 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: MORRISON & FOERSTER, LLP
STREET: 2000 Pennsylvania Avenue, NW, Suite 5500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
les 9; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                             USA
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100.0%; Pred. No.
                                                                                                                       07/477,226
                                                                         07/299,880
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                     /206,470
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Best Local Similarity
"hes 8; Conserva
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US-09-738-884-4
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                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 4, Application US/09738884 Patent No. 6391606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Youngman, Philip
APPLICANT: Youngman, Philip
APPLICANT: Murphy, Christopher
APPLICANT: Murphy, Christopher
APPLICANT: Guzman, Luz-Maria
TITLE OF INVENTION: ESSENTIAL BACTERIAL GENES AND THEIR USE
FILE REFERENCE: 0734/060001
FILE REFERENCE: 0734/060001
CURRENT FILING DATE: 1998-12-30
NUMBER OF SEQ ID NOS: 102
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: 07/200,38
FILING DATE: 31-MAY-198
ATTORNEY/AGENT INFORMATION:
NAME: MUTASHIGE, KATE H
REGISTRATION NUMBER: 29,959
REFERENCE/DOCKET NUMBER: 2190
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202.887-1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INFORMATION FOR SEQ ID NO:
APPLICANT: GUEGLER, KAR1 et al
TITLE OF INVENTION: USCLATED HUMAN PHOSPHOLIPASE PROTEINS,
TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING HUMAN PHOSPHOLIPASE
TITLE OF INVENTION: PROTEINS, AND USES THEREOF
FILE REFERENCE: CL000849
CURRENT APPLICATION NUMBER: US/09/738,884
CURRENT FILING DATE: 2000-12-18
NUMBER OF SEQ ID NOS: 5
SOFTWARE: FastSEQ for Windows Version 4.0
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TYPE: PRT
ORGANISM: Streptococcus pneumoniae
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LENGTH: 177 amino acids
TYPE: amino acid
COMPANITARIO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE: protein FRAGMENT TYPE: internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         152 SQKPGRRG 159
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SDEDSLAR 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0.7%; Score 8; DB 4 ilarity 100.0%; Pred. No. 16. Conservative 0; Mismatches
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linear
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US-09-738-884-4
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ENGTH: 744
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В
                                                                                                                                 US-08-664-596B-18
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                                                                  Matches
                                                                                            Query Match
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                                                                                                                                                                                                              TELEFAX: (617) 876-5851
INFORMATION FOR SEQ ID NO: 18:
SEQUENCE CHARACTERISTICS:
LENGTH: 131 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
NAME: Brown, Scott A.
REGISTRATION NUMBER: 32,724
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CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: SECRETED PROTEINS AND POLYNUCLEOTIDES TITLE OF INVENTION: ENCODING THEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                               1096 SSDSSSP 1102
                                                                                                                                                                                                                                                                                   TELECOMMUNICATION INFORMATION: TELEPHONE: (617) 498-8224
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                                                                                                                                               MOLECULE TYPE: protein
119 SSDSSSP 125
                                                                                                                                                               STRANDEDNESS:
TOPOLOGY: 11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ZIP: 02140
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CITY: Cambridge
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                                                                              Local Similarity
                                                                                                                                                                                                                                                                                 TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION:
                                                                                                                                                                                                  amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Massachusetts
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Bowman, Michael
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Evans, Cheryl
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LaVallie, Edward
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                                                               0.6%; Score 7; DB 1; ilarity 100.0%; Pred. No. 70; Conservative 0; Mismatches
                                                                                                                                                                 linear
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100.0%; Pred. No.
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US-08-279-058B-38

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RESULT 10
US-08-828-323-38
US-08-828-323-38
Sequence 38, Application US/08828323A
Patent No. 6413753
GENERAL INFORMATION:
                                                                                                                                  ; TYPE: PRT; ORGANISM: Escherichia coli
US-08-828-323-38
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Best Local Similarity
Thes 7; Conserv
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SEQ ID NO 38
                                                                                             Query Match
                                                                   Matches
                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/08/828,323A CURRENT FILING DATE: 1997-03-28 NUMBER OF SEQ ID NOS: 60
                                                                                                                                                                                                                                                                      APPLICANT: O'Donnell, Michael
TITLE OF INVENTION: DNA POLYMERASE III HOLOENZYME
FILE REFERENCE: 19603/10214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: George M. Yahwak
REGISTRATION NUMBER: 26,824
REFERENCE/DOCKET NUMBER: CRF |
TELECOMUNICATION INFORMATION:
TELEPAX: (203)268-1951
INFORMATION FOR SEQ ID NO: 38:
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                                                                                                                                                                               LENGTH: 137
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APPLICANT: MICHAEL E. O'Donnell
TITLE OF INVENTION: DNA POLYMERASE III
TITLE OF INVENTION: HOLLOENZYME
                                 122 PGALQGE 1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1122 PGALQGE 1128
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LENGTH: 137 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: Macintosh
OPERATING SYSTEM: MS-DOS
SOFTWARE: Microsoft Word 4.0
CURRENT APPLICATION DATA:
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Connecticut
TSA
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ADDRESSEE: Yahwak & Associates
22 PGALQGE 28
                                                                Local Similarity les 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    22 PGALQGE 28
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TOPOLOGY: linear
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                                                                Conservative
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                                                         0.6%; Score 7; DB 4;
100.0%; Pred. No. 73;
ative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0.6%; Score 7; 1
100.0%; Pred. No.
tive 0; Mismatcl
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c. 73;
                                                                                          Length 137;
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US-08-924-759-24
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PCT-US95-04910-12
                                                                                                                                                Sequence 24, Application US/08924759 Patent No. 5962229
                                                                                           GENERAL INFORMATION:
APPLICANT: MCGONIGLE, BRIAN
APPLICANT: O'KEEFE, DANNEL
                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 12, Application PC/TUS9504910 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INFORMATION FOR SEQ ID NO:
                             TITLE OF INVENTION: PL
TITLE OF INVENTION: EN
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
LENGTH: 171 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION
TELEPHONE: (212) 758-4800
                                                                                                                                                                                                                                                                                  160 ARRQRTR 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION: NAME: WILLIAM S. FEILER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: WORDPERFECT CURRENT APPLICATION DATA:
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ADDRESSEE: MORGAN & FINNEGAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Health and Human Servic
TITLE OF INVENTION: ISOLATION AND
TITLE OF INVENTION: CHARACTERIZATI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES:
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ADDRESSEE: E.I. DU PONT DE NEMOURS AND COMPANY STREET: 1007 MARKET STREET
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                                                                                                                                                                                                                                                                                                                    Local Similarity
les 7; Conserv
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COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: FILING DATE: 22-APCCLASSIFICATION:
                                                                                                                                                                                                                                                   4 ARRORTR 10
                                                                                                                                                                                                                                                                                                                                                                                                     TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: PCT/
FILING DATE: 21-APR-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDIUM TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                                                              amino acids
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421792
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Health and Human Services
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WORDPERFECT 5.1
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24
                                                                             PLANT GLUTATHIONE-S-TRANSFERASE
                                                                                                                                                                                                                                                                                                          0.6%; Score 7; DB ! 100.0%; Pred. No. 89 tive 0; Mismatches
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LYMPHOTROPIC VIRUS AND THE USE OF THIS VIRUS
OR COMPONENTS THEREOF IN DIAGNOSTIC ASSAYS
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US-09-248-335-24
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                                                                                                                                    US-09-248-335-24
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                                                                                                                                                                                   SOFTWARE: Microsoft Word Version 7.0A
SEQ ID NO 24
LENGTH: 180
                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 24, Application US/09248335 Patent No. 6096504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                      APPLICANT: MCGONIGLE, BRIAN
APPLICANT: O'KEEF, DANIEL
TITLE OF INVENTION: PLANT GLUTATHIONE-S-TRANSFERASE ENZYMES
FILE REFERENCE: CL-1128-A
CURRENT APPLICATION NUMBER: US/09/248,335
CURRENT FILING DATE: 1999-02-10
EARLIER APPLICATION NUMBER: 08/92
EARLIER FILING DATE: 1997-September-05
NUMBER OF SEQ ID NOS: 74
                                                                                                                                                  ORGANISM: maize
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INFORMATION FOR SEQ ID NO: 24:
                                                                                                                                                                      TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORIGINAL SOURCE:
TISSUE TYPE: MAIZE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: MICROSOFT WORD FOR WINDOWS 95
SOFTWARE: MICROSOFT WORD VERSION 7.0A
CURRENT APPLICATION DATA:
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LIBRARY: CS1.E
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LENGTH: 180 amino acids
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NAME: FLOYD, LINDA AXAMETHY
REGISTRATION NUMBER: 33,692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM: MEDIUM TYPE: DISKETTE,
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                              887 ALGLKGL 893
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STRANDEDNESS: not
TOPOLOGY: not rel
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REFERENCE/DOCKET NUMBER: CL
24 ALGLKGL 30
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                                                               Local Similarity es 7; Conser
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                                                             0.6%; Score 7; DB ilarity 100.0%; Pred. No. 94 Conservative 0; Mismatches
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                                                                               DB 3;
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                                                                                                Length 180;
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RESULT 14

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US-08-750-532-18
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LENGTH: 224
TYPE: PRT
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Sequence 18, Applicat
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CURRENT FILING DATE: 1999-01-12
NUMBER OF SEQ ID NOS: 130
SOFTMARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: Compositions Isolated from Plant Cells TITLE OF INVENTION: and Their Use in the Modification of Plant Cell Signalling FILE REFERENCE: 11000/1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Strabala, Timothy APPLICANT: Nieuwenhuizen, Niels
                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION DATA:

PRIOR APPLICATION NUMBER: PCT/JP95/01095

PRIOR APPLICATION DATA:

PRIOR APPLICATION DATA:

APPLICATION NUMBER: JP 1994/130236
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                                                                                                                  APPLICATION NUMBER: JP 1994/173912
FILING DATE: 26-JUL-1994
ATTORNEY/AGENT INFORMATION:
NAME: BROWDY, ROGER L.
REGISTRATION NUMBER: 25,618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: Patentin Rel
CURRENT APPLICATION DATA:
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REFERENCE/DOCKET NUMBER: MITTA-1
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 628-5197
                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: FILING DATE: 13-JUN-PRIOR APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: 419 Sever CITY: Washington STATE: D.C.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E: BROWDY AND NEIMARK, P.L.L.C. 419 Seventh Street N.W., Suite 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
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TSUNASAWA, Susumu
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GenCore version 5.1.4\_p5\_4578 Copyright (c) 1993 - 2003 Compugen Ltd.

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Minimum DB seq length: 0
Maximum DB seq length: 2000000000
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Perfect score:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Total number of hits satisfying chosen parameters:
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/cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*
/cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
/cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
/cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
/cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
/cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
1. /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
2. /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
3. /cgn2_6/ptodata/1/pubpaa/US09_NEW_PUB.pep:*
3. /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
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1865.249 Million cell updates/sec
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

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Result No.	Score	% Query Match	Length	DB	ID	Description
1	1207	100.0	1207	10	US-09-927-112-2	Sequence 2, Appli
ผ	324	26.8	325	10	US-09-927-112-10	Sequence 10, Appl
ω	14	1.2	1054	10	US-09-828-447-11	Sequence 11, Appl
4	13	1.1	119	9	US-09-764-868-637	Sequence 637, App
ъ	13	1.1	119	9	US-09-955-999-84	>
6	12	1.0	102	10	US-09-822-635-7	Sequence 7, Appli
7	12	1.0	119	10	US-09-800-971-9	Sequence 9, Appli
œ	12	1.0	128	10	US-09-800-971-8	Sequence 8, Appli
9	12	1.0	128	10	US-09-927-112-8	Sequence 8, Appli
10	12	1.0	128	10	US-09-908-664-11	Sequence 11, Appl
11	12	1.0	128	10	US-09-908-664-20	Sequence 20, Appl
12	12	1.0	340	10	US-09-835-996A-19	Sequence 19, Appl
13	12	1.0	567	10	US-09-835-996A-8	Sequence 8, Appli
14	12	1.0	762	10	US-09-804-969-15	Sequence 15, Appl
15	12	1.0	762	10	US-09-908-664-2	Sequence 2, Appli
16	11	0.9	119	10	US-09-908-664-15	Sequence 15, Appl
17	11	0.9	128	10	US-09-908-664-23	Sequence 23, Appl
18	11	0.9	1809	10	US-09-822-635-2	Sequence 2, Appli
19	10	0.8	92	10	US-09-927-112-16	Sequence 16, Appl

45	44	43	42	41	40	39	38	37	36	35	34	ယ္ဆ	32	31	30	29	28	27	26	25	24	23	22	21	20
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113	104	93	83	71	51	1567	875	744	608	384	335	335	191	170	158	158	158	63	48	736	736	744	628	201	182
9	10	10	10	10	10	10	9	9	10	9	10	10	10	10	10	10	10	10	10	10	9	9	10	10	10
US-09-738-626-4430	US-09-864-761-39244	US-09-764-869-676	US-09-050-010-7	US-09-764-877-1515	US-09-864-761-48515	US-09-835-232-2	US-09-548-933-15	US-10-096-961-4	US-09-908-664-5	US-09-738-626-6924	US-09-815-242-13658	US-09-815-242-13433	US-09-908-664-22	US-09-908-664-13	US-09-927-112-11	US-09-764-860-342	US-09-764-870-377	US-09-908-664-17	US-09-864-761-42929	US-09-800-971-2	US-10-096-961-2	US-10-096-961-5	US-09-828-447-12	US-09-867-550-1334	US-09-800-971-7
Sequence 4430, Ap	Sequence 39244, A	Sequence 676, App	Sequence 7, Appli	Sequence 1515, Ap	Sequence 48515, A	Sequence 2, Appli	Sequence 15, Appl	Sequence 4, Appli	Sequence 5, Appli	Sequence 6924, Ap	Sequence 13658, A	Sequence 13433, A	Sequence 22, Appl		Sequence 11, Appl	Sequence 342, App		Sequence 17, Appl	Sequence 42929, A	Sequence 2, Appli	Sequence 2, Appli	Sequence 5, Appli	Sequence 12, Appl	Sequence 1334, Ap	Sequence 7, Appli

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Patent No. US20020106774A1
                                                                                                                                                                                                                                                                                                                  Query Match 100.0%; Score 1207; Best Local Similarity 100.0%; Pred. No. 0; Matches 1207; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Meyers, Rachel
APPLICANT: Silos-Santiago, Inmaculada
TITLE OF INVENTION: 32544, a novel human phospholipase C and
TITLE OF INVENTION: uses thereof
FILE REFERENCE: 38155-20048.00
CURRENT FILING DATE: 2001-08-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Millennium Pharmaceuticals, Inc. APPLICANT: Meyers, Rachel APPLICANT: Silos-Santiago, Inmaculada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: US 60/246,808 PRIOR FILING DATE: 2000-11-08 NUMBER OF SEQ ID NOS: 17
                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 1207
TYPE: PRT
ORGANISM: Homo sapiens
181
                                       181
                                                                             121 YHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEADKN 180
                                                                                                                     121
                                                                                                                                                       1 MAPPTAGPLPGPALPPEDPGPDPESRWLFLSANILPVVERCMGAMQEGMQMVKLRGGSKG
                                                                                                                                                                                                                                        GDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMSTRRDL 240
                                                                                              YHGSHRESLDLVSTSSEVARTWVTGLRYLMAGISDEDSLARRQRTRDQWLKQTFDEADKN 180
GDGSLSIGEVLQLLHKLNVNLPRQRVKQMFREADTDDHQGTLGFEEFCAFYKMMSTRRDL 240
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                                                                                                                         PWLACGP 1207
                                                                                                                                                                                                                                          GPGAWROGPGGSGSMSSDSSSDDSPGIPERSPRWPEGACROPGALOGEMSALFAOKLEEI 1140
                                                                                                                                                     RSKSPMFSAGKPLLPCVVLPHAPGMAGPGSPAAASAWTVSPRVLVLVALYPWHCLRGTLL
                                                                                                                                                                                                                         GPGAWRQGPGGSGSMSSDSSSPDSPGIPERSPRWPEGACRQPGALQGEMSALFAQKLEEI
                                                                                                                                                                                                                                                                                             GSCAGVNTGGLQRERPPSPGPASRQAAIRQQPRARADSLGAPCCGLDPHAIPGRSREAPK
                                                                                        PWLACGP
                                                                                                                                                                                                                                                                                                                               GSCAGVNTGGLQRERPPSPGPASRQAAIRQQPRARADSLGAPCCGLDPHAIPGRSREAPK 1080
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SANGGCGYVLKPGCMCQGVFNPNSEDPLPGQLKKQLVLRIISGQQLFKPRDSMLGDRGEI 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QKPAQYLRFNQQQLSRIYPSSYRVDSSNYNPQPFWNAGCQMVALNYQSEGRMLQLNRAKF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RDFIGQRTLAFSSMMPGYRHVYLEGMEEASIFVHVAVSDISGKVKQALGLKGLFLRGPKP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EVSDEDSADEIDDDCKLLNGDASTNRKRVENTAKRKLDSLIKESKIRDCEDPNNFSVSTL 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VIQQKKMAQYLTDILGDKLDLSSYSSEDATTLPSPQMLKGKILVKGKKLPANISEDAEEG
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APPLICANT: Millennium Pharmaceuticals, Inc.

APPLICANT: Meyers, Rachel

APPLICANT: Meyers, Rachel

APPLICANT: Silos-Santiago, Inmaculada

TITLE OF INVENTION: 32544, a novel human phospholipase C and

TITLE OF INVENTION: uses thereof

FILE REFERENCE: 38155-20048.00

CURRENT APPLICATION NUMBER: US/09/927,112

CURRENT FILING DATE: 2001-08-10

PRIOR APPLICATION NUMBER: US/07/46,808

PRIOR FILING DATE: 2000-11-08

APPLICATION NUMBER: US 60/246,808

PRIOR FILING DATE: 2000-11-08

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 10

LENGTH: 325

TYPE: PRI

ORGANISM: Artificial Common
                                                                                                                                                                                                                                                                                                                                                                                                                   ; Sequence 11, Application US/09828447
.; Patent No. US20020069432A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-828-447-11
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; FEATURE:
; OTHER INFORMATION: Consensus amino acid
US-09-927-112-10
                                                                                                                                                                                                                                                                                                                                                                                               ; GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                       APPLICANT: COSTA E SILVA, OSWALDO APPLICANT: BOHNERT, HANS J. APPLICANT: VAN THIELEN, NOCHA APPLICANT: CHEM, ROUYING APPLICANT: ISHITANI, MANABU
APPLICANT: ISHITANI, MANABU
TITLE OF INVENTION: SIGNAL TRANSDUCTION STRESS-RELATED PROTEINS AND METHODS
TITLE OF INVENTION: OF USE IN PLANTS
FILE REFERENCE: 16313-0037
CURRENT FILING DATE: 2001-08-20
PRIOR APPLICATION NUMBER: 05/196,001
PRIOR APPLICATION NUMBER: 60/196,001
PRIOR FILING DATE: 2000-04-07
NUMBER OF SEC ID NOS: 41
SOFTWARE: PATENTIN VET. 2.1
SOFTWARE: PATENTIN VET. 2.1
SOFTWARE: PATENTIN VET. 2.1
SOFTWARE: 1054
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   62
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ALQGEMSALFAQKLEEIRSKSPMFSAGKPLLPCVVLPHAPGMAGPGSPAAASAWTVSPRV 118:
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RESULT 5
US-09-955-999-84
IS-09-955-999-84
; Sequence 84, Application US/09955999
; Publication No. US20030036505A1
; GENERAL INFORMATION:
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                                                                                                        SOFTWARE: PatentIn Ver.
SEQ ID NO 84
LENGTH: 119
TYPE: PRT
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Best Local S
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SEQ ID NO 637
LENGTH: 119
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Best Local Similarity
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                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/09/955,999
CURRENT FILLING DATE: 2001-09-20
PRIOR APPLICATION NUMBER: 60/234,997
PRIOR FILING DATE: 2000-09-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Rosen et al. TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies FILE REFERENCE: PTZ32
                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: Signal Transduction Pathway Component Polynucleotides, Polypeptic TITLE OF INVENTION: Antibodies, and Methods Based Thereon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION NUMBER: US/09/764,868
CURRENT FILING DATE: 2001-01-17
                                                                                                                                                                                                                                                                                                FILE REFERENCE: PT086P1
                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Barash et al.
                                                                                                                                                                                         NUMBER OF SEQ ID NOS: 139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Prior application data removed - refer to PALM or file wrapper NUMBER OF SEQ ID NOS: 1510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: SITE LOCATION: (112)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids NAME/KEY: SITE LOCATION: (116)
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OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
                                NAME/KEY: SITE LOCATION: (10)
                                                                  FEATURE:
                                                                                     ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
  OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
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les 13; Conserv
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L00.0%; Pred. No. 0.0001;
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100.0%; Pred. No. 7.9
ive 0; Mismatches
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7.9e-05;
ches 0;
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US-09-822-635-7
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                                                                                                      SEQ ID NO 9
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Best Local Similarity 100.0%; Pred. No.
Matches 12; Conservative 0; Mismatc
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Best Local Similarity
Matches 13; Conserv
                                                                                                                                            PRIOR APPLICATION NUMBER: 60/188,032 PRIOR FILING DATE: 2000-03-09 NUMBER OF SEQ ID NOS: 11
                                                                                                                                                                                                      CURRENT APPLICATION NUMBER: US/09/800,971
CURRENT FILING DATE: 2001-03-06
PRIOR APPLICATION NUMBER: 60/187,453
PRIOR FILING DATE: 2000-03-07
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PRIOR FILING DATE: 2000-03-31
NUMBER OF SEC.
                                                                                                                         SOFTWARE: FastSEQ for Windows Version 4.0
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CURRENT APPLICATION NUMBER: US/09/822,635
CURRENT FILING DATE: 2001-03-30
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                                                                TYPE: PRT
                                      ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OTHER INFORMATION: consensus sequence
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LOCATION: (116)
OTHER INFORMATION: consensus sequence
                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Artificial Sequence
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; OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids US-09-955-999-84
GENERAL INFORMATION:
APPLICANT: RACHEL A. Meyers
TITLE OF INVENTION: 16835, A NOVEL HUMAN PHOSPHOLIPASE C
TITLE OF INVENTION: FAMILY MEMBER AND USES THEREOF
FILE REFERENCE: 10448-023001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Meyers, Rachel A.
TITLE OF INVENTION: 16836, A NOVEL HUMAN PHOSPHOLIPASE C
TITLE OF INVENTION: USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: SITE LOCATION: (112)
OTHER INDICATE AND OF the naturally occurring L-amino acids
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0.00086;
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0.0001;
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694 FWNAGCQMVALN 705

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US-09-927-112-8

; Sequence 8, Application US/09927112
; Patent No. US20020106774A1
; GENERAL INFORMATION:
                                                                                  ; OTHER INFORMATION: Consensus amino acid US-09-927-112-8
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; OTHER INFORMATION: consensus sequence
US-09-800-971-8
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                                                                                                                                                                           NUMBER OF SEQ ID NOS: 17
SOFTWARE: FRASTSEQ for Windows Version 4.0
SEQ | ID NO 8
LENGTH: 128
         Matches
                                           Query Match
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                             Best
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APPLICANT: Meyers, Rachel
APPLICANT: Silos-Santiago, Inmaculada
TITLE OF INVENTION: 32544, a novel human phospholipase C and
TITLE OF INVENTION: uses thereof
FILE REFERENCE: 38155-20048.00
CURRENT APPLICATION NUMBER: US/09/927,112
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: US 60/246,808
PRIOR FILING DATE: 2000-11-08
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CURRENT FILLING DATE: 2001-03-06
PRIOR APPLICATION NUMBER: 60/187,453
PRIOR FILING DATE: 2000-03-07
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SOFTWARE: FastSEQ for Windows Version 4.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: 16835, A NOVEL HUMAN PHOSPHOLIPASE C TITLE OF INVENTION: FAMILY MEMBER AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILE REFERENCE: 10448-023001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Rachel A. Meyers
                                                                                                                                  ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                        FEATURE:
                                                                                                                                                           TYPE: PRT
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                         Local
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       l Similarity
12; Conserv
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100.0%; Pr
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                     Score 12; DB 10; pred. No. 0.0011;
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       Mismatches
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                                           Length 128;
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; OTHER INFORMATION: Consensus amino acid
US-09-908-664-11
                                                                                                                                        ; OTHER INFORMATION: Consensus amino acid US-09-908-664-20
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                                                                                         Query Match
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Best Local S
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SEQ ID NO 11
LENGTH: 128
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Patent No. US20020115178A1
                                              Matches
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TITLE OF INVENTION: 16816 AND 16839, NOVEL HUMAN
TITLE OF INVENTION: PHOSPHOLIPASE C MOLECULES AND USES THEREFOR
FILE REFERENCE: 38155-20022.00
CURRENT APPLICATION NUMBER: US/09/908,664
CURRENT FILING DATE: 2001-07-17
PRIOR APPLICATION NUMBER: US 60/218,675
PRIOR FILING DATE: 2000-07-17
                                                                                                                                                                                                                                                                                                   NUMBER OF SEQ ID NOS: 24 SOFTWARE: FastSEQ for Windows Version 4.0
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CURRENT APPLICATION NUMBER: US/09/908,664
CURRENT FILING DATE: 2001-07-17
PRIOR APPLICATION NUMBER: US 60/218,675
PRIOR FILING DATE: 2000-07-17
NUMBER OF SEQ ID NOS: 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
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TITLE OF INVENTION: 16816 AND 16839, NOVEL HUMAN
TITLE OF INVENTION: PHOSPHOLIPASE C MOLECULES AND USES THEREFOR
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                                                                                                                                                                                   LENGTH: 128
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
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ORGANISM: Artificial Sequence
694 FWNAGCQMVALN 705
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                                           7 Match 1.0%; Score 12; DB 10; Length 128; Local Similarity 100.0%; Pred. No. 0.0011; nes 12; Conservative 0; Mismatches 0; Indels
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Rudolph-Owen,
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Rudolph-Owen, Laura
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79 FWNAGCQMVALN 90

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CURRENT APPLICATION NUMBER: US/09/835,996A

CURRENT FILING DATE: 2001-04-16

PRIOR APPLICATION NUMBER: US 60/197,137

PRIOR FILING DATE: 2000-04-14

PRIOR FILING DATE: 2000-01-14

PRIOR FILING DATE: 2000-11-17

PRIOR FILING DATE: 2000-11-17

PRIOR APPLICATION NUMBER: US 09/667,298

PRIOR FILING DATE: 2000-09-22

PRIOR FILING DATE: 2000-09-22

PRIOR APPLICATION NUMBER: US 09/631,451

PRIOR APPLICATION NUMBER: US 09/631,451

PRIOR APPLICATION NUMBER: US 09/598,042

PRIOR FILING DATE: 2000-08-20
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APPLICANT: Loeb, Debra
APPLICANT: Montgomery, Julie
APPLICANT: Tang, Y. Tom
APPLICANT: Zhou, Ping
APPLICANT: Goodrich, Ryle
APPLICANT: Liu, Chenghua
APPLICANT: Liu, Chenghua
APPLICANT: Asundi, Vinod
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                                                                                                                                                                                                                                                                                                                            Sequence 8, Application US/09835996A Patent No. US20020142953A1
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APPLICANT:
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APPLICANT:
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                     APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 340
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OF INVENTION: MATERIALS AND METHODS RELATING TO LIPID METABOLISM
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                   Zhao, Qing
Wehrman, Tom
Drmanac, Radoje
Ren, Feiyan
Qian, Xiahong
Wang, Dunrui
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Zhou, Ping
Goodrich, Ryle
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Wang, Dunrui
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Drmanac, Radoje
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Tang, Y. Tom
Zhou, Ping
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RESULT 15
US-09-908-664-2
; Sequence 2, Application US/09908664
; Patent No. US20020115178A1
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; TYPE: PRT
; ORGANISM: homo sapiens
US-09-804-969-15
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SEQ ID NO 8
LENGTH: 567
TYPE: PRT
TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                              Query Match 1.0%; Score 12; DB 10; Length 762; Best Local Similarity 100.0%; Pred. No. 0.0055; Matches 12; Conservative 0; Mismatches 0; Indels
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APPLICANT:
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Best Local Similarity 100.0%; Pred. No.
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TITLE OF INVENTION: No. US20020081595A1el Human Phospholipases and Polynucleotides
FILE REFERENCE: LEX-0148-USA
CURRENT APPLICATION NUMBER: US/09/804,969
CURRENT FILING DATE: 2001-03-13
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APPLICANT:
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PRIOR FILING DATE: 2000-08-03
PRIOR APPLICATION NUMBER: US 09/598,042
PRIOR FILING DATE: 2000-06-20
NUMBER OF SEQ ID NOS: 45
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CURRENT APPLICATION NUMBER: US/09/835,996A
CURRENT FILING DATE: 2001-04-16
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PRIOR FILING DATE: 2000-04-14
PRIOR APPLICATION NUMBER: US 09/714,936
PRIOR FILING DATE: 2000-11-17
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US20020081595A1
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Hilbun, Erin
Turner, C. Alexander Jr.
Abuin, Alejandro
Eriedrich, Glenn
Eriedrich Glenn
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. 0.0042;
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GENERAL INFORMATION:
APPLICANT: Millennium Pharmaceuticals, Inc.
APPLICANT: Millennium Pharmaceuticals, Inc.
APPLICANT: Meyers, Rachel
APPLICANT: Rudolph-Owen, Laura
APPLICANT: Tsai, Fong Yin
TITLE OF INVENTION: 16816 AND 16839, NOVEL HUMAN
TITLE OF INVENTION: PHOSPHOLIPASE C MOLECULES AND USES THEREFOR
FILLE REFERENCE: 38155-20022.00
CURRENT FILING DATE: 2001-07-17
PRIOR APPLICATION NUMBER: US 60/218,675
PRIOR FILING DATE: 2000-07-17
NUMBER: OF SEQ ID NOS: 24
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 2
LENGTH: 762
TYPE: PRT
ORGANISM: Homo sapiens
US-09-908-664-2
                                                                                                       Вb
Search completed: March 28, 2003, 14:14:22
Job time : 41 secs
                                                                                                                                             Qy
                                                                                                                                                                                              Query Match 1.0%; Score 12; DB 10; Length 762; Best Local Similarity 100.0%; Pred. No. 0.0055; Matches 12; Conservative 0; Mismatches 0; Indels
                                                                                               335 SSHNTYLVGDQL 346
||||||||||
303 SSHNTYLVGDQL 314
                                                                                                                                                                                                 0; Gaps
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